

Problem Reframing: Intelligence Professionals' Role in Design

**A Monograph
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As design emerges throughout the United States Army's planning and operational doctrine, the intelligence community must leverage this structure of inquiry to identify and refocus the scope of what is collected, analyzed, produced and disseminated. The purpose of this study is to propose that by employing design methodologies the intelligence community can provide improved and fused intelligence to operational level commanders resulting in more focused and relevant operations. This monograph examines cases using four criteria to suggest intelligence professionals recommend problem reframing to commanders. Evaluating the months of September 2005 and July 2007 this study signifies that varied indicators within the environmental frame lead intelligence professionals to potentially propose a problem reframe to their commanders. The conclusion of these findings recommends that by using design tools the intelligence community can provide commanders holistic information that acknowledges shifts in the operational environment. A series of recommendations for both intelligence professionals and commanders concludes the discussion.					
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Abstract

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As design emerges throughout the United States Army's planning and operational doctrine, the intelligence community must leverage this structure of inquiry to identify and refocus the scope of what is collected, analyzed, produced and disseminated. Design is defined as, "a methodology for applying critical and creative thinking to understand, visualize, and describe complex, ill-structured problems and develop approaches to solve them." In other words, design is the holistic process of looking at the environment, framing the problem and deriving possible solutions. The use of design by the intelligence community broadens the scope of collected and analyzed information providing more relevant intelligence to commanders in the current operational environment. With this in mind, the knowledge and application of design should play an integral role in synthesizing intelligence, driving current and future operations.

The purpose of this study is to propose that by employing design methodologies the intelligence community can provide improved and fused intelligence to operational level commanders resulting in more focused and relevant operations. This monograph shows design's utility lies in the intelligence function of fusion. When intelligence professionals use available data and information together, they fuse sources into a more reliable product. Therefore, the use of design provides intelligence officers a better understanding of the environment and can provide better recommendations on courses of actions to the commanders.

Drawing from design theory (the environmental frame, problem frame and solution space), this monograph examines cases within the context of Afghanistan from 2001-2009. Using four criteria from design theory, more specifically tenets of problem reframing, this monograph evaluates the months of September 2005 and July 2007. The criteria used are experimentation, learning, discourse and application of generating tools to suggest intelligence professionals recommend problem reframing to commanders.

The finding of this study signifies that varied indicators within the environmental frame lead intelligence professionals to potentially propose a problem reframe to their commanders. In September 2005 the analysis indicated problem reframing was unwarranted. Whereas, compared to July 2007, all four criteria indicated the necessity of the intelligence community to recommend problem reframing.

The conclusion of these findings recommends that by using design tools the intelligence community can provide commanders holistic information that acknowledges shifts in the operational environment. Future changes by the intelligence community require time and training devoted to understanding and applying the design process to intelligence operations. A series of recommendations for both intelligence professionals and commanders concludes the discussion for the use design in the intelligence community.

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Introduction

The urgent task before us is to make our intelligence community not only stronger but in a word, ‘relevant.’

Major General Michael T. Flynn, Director of
Intelligence for the North Atlantic Treaty
Organization International Security Assistance
Force (ISAF)¹

You cannot see the wood for the trees.

John Heywood’s 1546 proverb collection²

As design emerges throughout the United States Army’s planning and operational doctrine, the intelligence community must leverage this structure of inquiry to identify and refocus the scope of what is collected, analyzed, produced and disseminated. Design is defined as, “a methodology for applying critical and creative thinking to understand, visualize, and describe complex, ill-structured problems and develop approaches to solve them.”³ In other words, design is the holistic process of looking at the environment, framing the problem and deriving possible solutions. The use of design by the intelligence community broadens the scope of collected and analyzed information providing more relevant intelligence to commanders in the current

¹ Michael T. Flynn, Matt Pottinger, and Paul D. Batchelor, “Fixing Intel: A Blueprint for Making Intelligence Relevant in Afghanistan.” *Center for a New American Security*, January 2010, http://www.cnas.org/files/documents/publications/AfghanIntel_Flynn_Jan2010_code507_voices.pdf [accessed January 12, 2010], 10.

² Julian Sharman, editor, *The Proverbs of John Heywood: Being the “Proverbs” of that author printed in 1546*, (London: George Bell and Sons, 1874), 107.

³ United States Department of Defense, *United States Army Field Manual 5-0: The Operations Process*, (Washington, DC: Government Printing Office, March 2010), 3-1. An additional definition from the *United States Army Field Manual 3-24: Counterinsurgency*, “design inquires into the nature of a problem to conceive a framework that can be used for solving that problem. In general, planning is problem solving, while design is problem setting, where planning focuses on generating a plan—a series of executable actions—design focuses on learning about the nature of an unfamiliar problem.” United States Department of Defense, *United States Army Field Manual 3-24: Counterinsurgency*, (Washington, DC: Government Printing Office, December 2006), 4-3.

operational environment. With this in mind, the knowledge and application of design should play an integral role in synthesizing intelligence driving current and future operations.

The purpose of this study is to propose that by employing design methodologies the intelligence community can provide improved and fused intelligence to operational level commanders resulting in problem reframing and relevant operations. This monograph shows that design's utility lies in the intelligence function of fusion. When intelligence professionals use available data and information together, they fuse sources into a more reliable product. Therefore, the use of design provides intelligence officers a better understanding of the environment and can provide better recommendations on problem reframing and courses of actions to the commanders.

Relevance to Intelligence

Intelligence officers trained only in the current intelligence process have a tendency to focus solely on historical reporting rather than conducting analysis on the entire environment. This results in incomplete information provided to commanders. Because intelligence as a war fighting function serves to analyze information and provide information to commanders, the branch must move beyond simply reporting past events.⁴ Therefore, the intelligence community must adapt its tools and processes from its sole focus on historical patterns of the enemy to holistically understanding the environment.

The present tools employed by intelligence planners at the tactical level are effective. Current operations in both Iraq and Afghanistan provide excellent examples of how targeting cycles,

⁴ United States Department of Defense, *United States Army Field Manual 3-0: Operations*, (Washington, DC: Government Printing Office, February 2008), 4-16. The definition of the intelligence warfighting function is, "facilitate understanding of operational environment, EN, terrain & civil consideration. Intel is more than just collection. Continuous process involves analyzing information from all sources and conducting operations to develop situation." This is in contrast to United States Department of Defense, *United States Army Field Manual 2-0: Intelligence*, (Washington, DC: Government Printing Office, March 2010), 1-8, definition of intelligence as, "is the product resulting from the collection, processing, integration, evaluation, analysis, and interpretation of available information concerning foreign nations, hostile or potentially hostile forces or elements, or areas of actual or potential operations."

fusion cells, and intelligence collection cycles work when they are bottom fed and incorporate all collectors across the battlespace. What lacks within the intelligence process are intelligence tools used to assist commanders in comprehending the environment in order to identify the correct problem. This gap is significant and will be filled as the United States Army implements design into both planning and military operations. As the intelligence community embraces design commanders will receive holistic information when dealing with complex problems.

Design: The Concept

An overview of the design methodology is first required before incorporating design into the planning and operations process. Design assists leaders in understanding the context of the situation and then deciding how, if and when to act.⁵ Differences emerge as commanders use design to closely examine the environment, develop an understanding of the problems and the operational approach to solving the right problem.⁶ The process of design supports planning with knowledge of the environmental frame, the problem frame and the operational approach. With this knowledge the intelligence community's application of design results in commanders solving the right problem.⁷ This overview of design is best understood with the use of an analogy.

⁵ TRADOC Focus Booklet, *Field Manual 5-0, The Operations Process*, 4.

⁶ Ibid.

⁷ Design, as a methodology, began in 2003 in the United States Army when the Army changed the tenets of battle command by adding "understand" to proceed visualize, describe and direct. This small shift in doctrine began a landslide of professional debate and adaptations to current instruction at many of the Army's leadership and training schools. In addition, Operation Enduring Freedom and Operation Iraqi Freedom forced commanders and staffs to think beyond constraints imposed by the Military Decision Making Process. Doctrine required a method to reflect the change that occurred within two different operational environments. The Army's doctrine writers acknowledged that the current operational environment evolved to encompass an asymmetrical battlefield. This opened the door to a dialogue permitting the methods of design into the existing planning processes. This information was drawn from MAJ David P. McHenry's monograph. MAJ David P. McHenry, "Battle Command: An Approach to Wickedness," Monograph, School of Advanced Military Studies, United States Army Command and General Staff College, 2009, 9.

"By design then, plans influence perception and reduce the number of things people notice. This occurs because people encode the world largely into the categories activated by the plan. Anything that is deemed "irrelevant" to the plan gets only cursory attention. And yet it is these very irrelevancies that are

Imagine using a high-powered telescopic sight to focus on one tree. The tree appears withered with only a couple of leaves and appears to stand-alone. This distressed tree seems as if it needs help to continue its growth but when seeing the tree through the use of low-power binoculars, with a broader field of view, it becomes apparent that this is the only healthy tree after a forest fire. Visualizing the entire forest changes the initial view of the distressed tree and the sole tree is seen as the only healthy tree in the forest. The use of multiple tools displays differences within the environment. For instance, using a satellite, as a visual tool, the burnt out forest is only a small part of a large national park that conducts controlled burns every fifty years. Using a microscope it is possible to examine all of the microbes and bacteria growing on the burned out wood to recover the forest. Design helps the intelligence community by understanding the old adage to see the forest instead of the tree, to understand the entire situation, and to realize what small components are required to bring the forest back to life.

Using design as a method, a commander understands the environment, frames the problem, completes the planning process, and proceeds within the recognized operational environment. Following the initial operation the interactions in the environment changes the situation. Referring back to our analogy, when forces enter the environment (i.e. forest) alterations to the situation and adjustments occur. Thus, when the propensity of a system changes, after unexpected success, catastrophic failure, or normalized assessments the commander must make a decision to modify the definition of the problem. The tool to reevaluate the initial problem is *reframing*. The commander decides to reframe when changes in the operational environment render the current operational approach no longer feasible, acceptable or suitable.⁸ Reframing the problem through generating intelligence knowledge, analyzing, assessing and disseminating information requires a

the seedbed of the unexpected events that make for unreliable functioning.” Karl E. Weick and Kathleen M. Sutcliffe, *Managing the Unexpected: Resilient Performance in an Age of Uncertainty: Second Edition*, (San Francisco, John Wiley & Sons, Inc, 2007), 66.

⁸ DoD, *FM 5-0: The Operations Process*, 3-68.

large amount of intelligence support.⁹ Understanding and reframing as the environment changes allows one to see the woods for the trees.

Current articles on problem reframing define the approach as,

*an intellectual activity to identify new opportunities and overcome obstacles to progress when interactions with real world situations or new sources of information reveal issues with a current problem. Reframing shifts attention from trying to solve the current problem right to asking whether the right problem is being solved.*¹⁰

The Department of the Army defined problem reframing in *United States Army Field Manual 5-0: The Operations Process* as, “a shift in understanding that leads to a new perspective on the problems or their resolution.”¹¹ Throughout this monograph problem reframing is defined as creating a space where learning is required because initial information no longer fits into the box created prior to action in the environment. Hence, the importance of understanding and learning are explicitly derived from actors throughout the operational environment. Information regarding economic, social, political, and military changes are required as inputs to design and its concept of problem reframing.

Implementing this knowledge to develop plans requires fused intelligence to update operations thereby implementing change.¹² As the problem and the endstate change based on changing strategic and operational influences, reframing is critical to ensure continual inquiry and reflections of these changes by maneuver forces.¹³ The influence of critical intelligence leads the commander to correctly reframe the problem.

⁹ DoD, *FM 2-0: Intelligence*, 1-94.

¹⁰ Stefan J. Banach and Alex Ryan, “The Art of Design, A Design Methodology,” *Military Review*, (March-April 2009), 107.

¹¹ DoD, *United States Army Field Manual 5-0: The Operations Process*, 3-68.

¹² Fused intelligence, according the Joint Publication Field Manual 2-0, “Intelligence” is “a finished intelligence product that provides the most accurate and complete picture possible of what is known about an activity.” United States Department of Defense, *United States Joint Publication 2-0, Joint Intelligence*, (Washington DC: Government Printing Office, 22 June 2007), II -12.

¹³ Stefan Banach, “Educating by Design, Preparing Leaders for a Complex World,” *Military Review*, March-April 2009, 103.

Understanding, through the image of the commander's comprehension of the battlefield is a component necessary to conceptualize when a problem changes.¹⁴ The staff depicts the commander's understanding, referring to the analogy, to see the entire forest. Also through focused work on collection, planning and actions gathering information and building on the commander's understanding add meaning. The alteration of battlefield understanding is affected not only by enemy reactions but also by political, cultural and psychological considerations. Hence, the intelligence staff requires a critical ability to add to the commander's deep understanding of the battlefield.

Previous studies encompassing understanding, by both commanders and intelligence staffs, often focus on the initial analysis and decision to shape an environment.¹⁵ These studies added to the field of knowledge but the remaining gap in research fails to cover actions of a staff after the problem is framed. Assessments are often simplified and do not address the full scope of the problem because they are focused on specific commander's decisions.¹⁶ Commanders and ultimately soldiers pay the price for ill-suited, mistimed, and unsound actions.

Review of Intelligence Analysis

Historically, understanding what frames the intelligence community's focus requires an appreciation of what commanders required from the intelligence community. Three examples, World War II, Vietnam, and Desert Storm display how information provided to commanders

¹⁴ Robert D. Worley, Cathleen Stasz, and James P. Kahan. *Understanding Commanders' Information Needs*, (Santa Monica, CA: Rand, 1989), vi.

¹⁵ Jeffrey H. Norwitz, "Leveraging Operational Intelligence-The Battle of Tannenberg and Masurian Lakes (1914)," *Naval War College* Newport, RI (14 May 2001), 15-16. "Leveraging operational intelligence is a function of two elements. First, the intelligence professional must ensure they key data is available, not just massive data of all sorts. Secondly, the data collected must be correctly analyzed. Finally, sound operational intelligence, that which is "actionable" must be highlighted for the decision-maker."

¹⁶ Ephram Kam, "Intelligence and Decision Makers," *Strategic Intelligence: Theory and Application*. Edited by Douglas H. Dearth and Royal Thomas Goodden. (Carlisle Barracks, PA: U.S. Army War College, 1995), 147.

shifted due to commanders' needs. Following World War II, Colonel Elias Carter Townsend, an infantry officer, explained that "intelligence production at the combat level should focus only on the enemy's location and strength." Townsend opined, "essential information will allow the commander to exercise his command and refrain from burdening the commander with predictions, guessing or relative probability of adoption."¹⁷ Thus, following World War II commanders wanted raw data instead of analyzed information from intelligence officers.

A second transition in what commanders asked of their intelligence officers occurred during the Vietnam War. The change occurred as intelligence collectors gathered information that flowed into input-output calculations following a linear pattern of quantitative data.¹⁸ The intelligence effort during the Vietnam War focused on collection rather than analysis.¹⁹ This led to a greater impact of collected information used by commanders. The result of the quantity of information collected had a minor impact on decisions made by commanders. The consequences of this approach provided incomplete information on the entire environment to commanders. Commanders recognized the shortcomings of their overreliance on qualitative data and began to relook their needs for intelligence during war.

A third shift in what intelligence provided occurred during Operation Desert Storm and is best described by Dr. Michael Handel, a theorist on intelligence and instructor at the Naval War College. During a briefing to the United States Army War College, Handel stated the purpose of intelligence was to,

supply the leader with the information and analytic estimates necessary for him to reach a decision. Then they follow up the success or failure of the decision and

¹⁷ Elias Carter Townsend, *Risk: the Key to Combat Intelligence*. (Harrisburg, PA: The Military Service Publishing Company, 1955), 69. Townsend additionally found that "intelligence officers' predictions were parallel to attempting to predict the stock market."

¹⁸ Antoine Bousquet, *The Scientific Way of Warfare: Order and Chaos on the Battlefield of Modernity*. (New York: Columbia University Press, 2009), 15.

¹⁹ An example of this from *The Scientific Way of Warfare*, "As one senior staff member of the National Security Council said, '95 percent of the U.S. intelligence effort has been on collection, and only 5 percent on analysis and production [interpretation]'. " Bousquet, 155.

analyze the opponent's reaction. The second stage is always very important, but seldom popular. It is here that the intelligence services may appear to threaten the leader's authority by 'criticizing' or evaluating the success of his policies. The second evaluative feedback phase of intelligence work is extremely important to the leader who wants to succeed in the long run.²⁰

Thus, during and following the test of Desert Storm intelligence requested by commanders served as process of inquiry. Evidence stemming from World War II, Vietnam and Desert Storm display that the intelligence needs of commanders shifted over the past half century. This monograph shows that the shift of what analysis the intelligence community provides to commanders requires additional changes through the use of design.²¹

Methodology and Analysis

This monograph focuses on the intelligence community's ability to incorporate design into the intelligence process.²² Using design methodology, this monograph examines two cases in Afghanistan during the time period of 2002-2009. The different events are two potential problem reframing points in the conflict. Concurrently, this study focuses on the role of intelligence and its ability to use information to influence commanders on reframing the problem. Using only unclassified artifacts from multiple media sources and official after-action reports, this monograph illustrates the correct or incorrect application of intelligence to the reframed event.

²⁰ Michael I. Handel, "Leaders and Intelligence." *Leaders and Intelligence*. Edited by Michael I. Handel. (London: Frank Cass & Co, 1989), 9.

²¹ Current doctrine states that the most important role of intelligence, as described in the United States Department of Defense, *United States Army Field Manual 2-0: Intelligence* "intelligence is to support the commander's decision making to drive operations." (DoD, *FM 2-0: Intelligence*, 1-12.) The current process of providing commanders and staffs with timely, relevant, accurate, predictive and tailored intelligence about the enemy based on the environment shows the fourth shift of analysis as a process.

²² The intelligence process as defined in DoD, *FM 2-0: Intelligence* are the four steps of plan, prepare, collect, and produce. (DoD, *FM 2-0: Intelligence*, 1-93) The intelligence community, as used in this monograph focuses on organizations within the Department of Defense intelligence organizations.

The parameter of the study focuses on United States Army forces and commanders at the strategic and operational level.²³

This method of study concentrates on the background events within the country, how they happened, what caused the shifts (economically, politically, or socially), the intelligence community's contributions, and concludes with actions that resulted. This study focuses on the operational environment and how design prods the intelligence community into the reframing process by comparing two cases for potential problem reframing. The literature cited throughout this monograph focuses primarily on the field of intelligence, creating learning environments, understanding problems and reframing, and the applications of design within the intelligence community. The events modeled focus on narcotics trafficking, counterinsurgency, politics, education, socialization, and economics. These events are qualitatively compared through the four criteria that constitute design theory: experimentation, learning, discourse and generating tools. The two sample case dates, of September 2005 and July 2007, were chosen as comparison months to exemplify current problems in Afghanistan and display the potential to incorporate design into the intelligence process.

A large limitation to this study is the reliance on unclassified material. Much of what the intelligence community uses to frame a problem is classified and generally takes twenty years post-event to declassify. This monograph is also bound by using information from operations conducted by United States Army forces and by the timeframe of 2002-2009. The concentration solely on this population and timeframe allows for a more focused study on past events and supplies future uses of intelligence in potential reframing actions within the United States Army. In addition, this study of Afghanistan focuses on the North Atlantic Treaty Organization (NATO) mission assessed through the lens of the United States.

²³ The strategic levels are national strategic as the Department of Defense, theater strategic as Central Command and regional strategic as the International Security Assistance Force (ISAF). The operational level command within Afghanistan is the Combined Joint Task Forces (CJTF).

Criteria to Assess Problem Reframing

Within the scope of this study four criteria, taken from design theory and doctrine, are used to assess whether or not the intelligence community should have reframed the problem in each case study. Through the validation of information and intelligence available to the intelligence community the four criteria of experimentation, learning, discourse and generating tools were used to assess a potential reframing of the problem. This study examines the four criteria of design, in the problem frame, to assess potential problem reframing.

The first criterion, experimentation, is best defined by Massachusetts Institute of Technology Professor Donald Schon's design concept of reflection-in-action. The function of questioning the assumptional structure of what is known, through reflection-in-action, allows professionals to think about what started this problem or opportunity.²⁴ In the process, staffs can, "restructure strategies of action, understandings of the phenomena, or ways of framing the problem," allowing the military to apply its own reflection by the staff and think about different approaches to issues.²⁵ Current doctrine, *United States Army Field Manual 3-24, Counterinsurgency* explains the criteria as learning-in-execution and defines this as, "enhanc[ing] understanding of the mosaic peculiar to their Area of Operation."²⁶ Within the intelligence community experimentation often occurs when collection assets yield minimal results and answers to priority intelligence requirements (PIR) are nonexistent. Thus, requiring a drastic change of assets used to find information is a prime example of experimentation.

²⁴ Donald A. Schon, *Educating the Reflective Practitioner*, (San Francisco: Jossey-Bass, 1987), 28.

²⁵ Schon, 28.

²⁶ DoD, *FM 3-24: Counterinsurgency*, paragraph 4-22. Mao wrote about the approach of learning as, "Reading is learning, but applying is also learning and the more important kind of learning at that. Our chief method is to learn warfare through warfare....it is often not a matter of first learning and then doing, but of doing then learning, for doing is itself learning," Mao Tse-tung, *Selected Military Writings of Mao Tse-tung*, (Peking: Foreign Language Press, 1963), 86.

The second criterion, a learning approach, is required as criteria for problem framing and reframing. The learning approach allows for an iterative process of inquiry and forms patterns to conduct an assessment. Thus, reframing the problem, assessing success or failure, requires dealing iteratively with structure, function, process and context as defined by Professor Jamshid Gharajedaghi, the core designer of System Methodology.²⁷ Learning about how the system works and its role in the environment leads to better synthesis about the understanding of the whole or, more simply, seeing what currently or actually exists.²⁸ Current doctrine, *FM 3-24*: *Counterinsurgency* operationalizes the concept of assessment as continuous monitoring and evaluation of the current situation and progress of an operation.²⁹ Assessments within the intelligence community to either understand a system or network are often conducted after fundamental surprise or failure. The concept of the learning approach, applied as an evaluation criterion, requires constant application, regardless of success or failure.

During problem reframing, the third criterion, discourse, appears after an interaction in the environment concludes with unexpected results. The military reflects on their successes or failures through prescribed after action reviews. Often, the discussion of these actions fails to uncover the next operation and merely recites past actions for historical record. Discourse, defined by Professor of Cybernetics, Language and Culture at the Annenberg School for Communication, University of Pennsylvania, Klaus Krippendorff is an “open discussion questioning ways things are done,” is used to reframe the problem resulting in a suitable solution.³⁰ Krippendorff further explains using discourse by evaluating group action. Within a group, discourse allows a staff to redraw the mental boundaries surrounding the problem,

²⁷ Jamshid Gharajedaghi, *Systems Thinking: Managing Chaos and Complexity: A Platform for Designing Business Architecture*, 2nd Edition, (New York: Elsevier, 2006), 110.

²⁸ Ibid.

²⁹ DoD, *FM 3-24: Counterinsurgency*, paragraph 4-25.

focusing a group to reflect on success and encourage growth from failures.³¹ At the heart of discourse lies the approach to understanding meaning. Meaning affords a staff, through narratives in grammatical constructs, the restoration of perceived differences between what is sensed and what seems to be happening.³² *United States Joint Publication 5-0: Doctrine for Planning Joint Operations*, refers to the idea of discourse between different actors as collaboration. The concept of achieving unified action, through collaboration, in any operation requires counterparts from other agencies and organizations to determine and coordinate necessary actions.³³ Discourse, used often by the Department of Defense intelligence leaders and the interagency intelligence organizations, serves to holistically understand the true operational environment and problems faced by all actors within the environment.

The fourth criteria, to this study focuses on the application of generating tools. Bryan Lawson, Dean of Architectural Studies at the University of Sheffield, United Kingdom, best defines this method of design by drawing. The process of drawing and redrawing, enables staffs to fundamentally change operations within one planning cycle.³⁴ This is a generator of ideas about interactions and relationships and develops leader's understanding of the situation using creativity. Another definition of generating tools uses Schon's idea of the ladder of reflection. Schon's concept explains that through iteration and practice a staff can look at the micro level,

³⁰ Klaus Krippendorff, *The Semantic Turn: A New Foundation for Design*, (Boca Raton, FL: Taylor and Francis, 2006), 37.

³¹ *Ibid.*, 27.

³² *Ibid.*, 55.

³³ United States Department of Defense. *United States Joint Publication 5-0: Doctrine for Planning Joint Operations* (April 13, 1995), III-19. This term of collaboration is also referenced in United States Department of Defense, *United States Joint Publication 2-01.3: Intelligence Preparation of the Operational Environment*. In DoD, *FM 3-24*, paragraph 4-9 discourse is defined as a, "rigorous and structured critical discussion that provides an opportunity for interactive learning, deepening shared understanding, and leveraging the collective intelligence and experiences of many actors to enable design."

³⁴ Bryan Lawson, *How Designers Think: The Design Process Demystified: Fourth Edition*, (Boston: Architectural Press, 2006), 26.

take a step to the macro level, and appreciate an entirely different perspective.³⁵ *Army Field Manual 2-0: Intelligence*, uses the idea of generating tools when intelligence officers assist commanders in developing the scale of their operations.³⁶ *FM 2-0: Intelligence* describes a change in scale when actors create regional or global alliances, adding to the collective capability and broadening the scale of operations and actions. *FM 2-0: Intelligence* explains the function of broadening scale by intelligence providing the commander a visualization of all real and/or potential adversaries and the various aspects of their cooperation that could impact on the operation.³⁷

Using the four criteria of experimentation, learning, discourse and generating tools allows intelligence analysts to understand the entire environment. These criteria taken from design theory form solid indicators to suggest problem reframing by commanders.

Significant Conclusions of the Study

The significance of this study allows for the extension of existing knowledge in the area of intelligence. The core of this study is aimed for use by field grade officers to understand where intelligence inputs into problem reframing. The conclusion of this study implies that professional peers, within the School of Advanced Military Study or at the Intermediate Level Education Course, should further their knowledge of design and application of this theory within the intelligence staff function to fully understand problems and provide adequate approaches to solve them. At a more macro level, the implications of the results of this examination add to the developing theory of design as applied to U.S. doctrine and the intelligence community at large. The results of this study, may in turn, contribute or influence decisions to educate analysts on the potential benefits of design theory and its implementation within the intelligence community.

³⁵ Schon, 114-115.

³⁶ DoD, *FM 2-0: Intelligence*, 6-26.

This monograph attempts to clarify, that by designing, the intelligence community can provide improved, fused intelligence to operational commanders resulting in reframed problems and relevant operations.

Theory of Design

Design as defined by the Army, is a methodology for applying critical and creative thinking to understand, visualize, and describe complex problems and develop approaches to solve them. Design, drawing from battle command, provides additional information within the framework of understanding the application of a methodology to think about complex issues. Design does not follow a template or checklist but instead is an approach to refocus an organization's leadership and staff allowing creative intellect to guide work and learning during periods of uncertainty.

Design Methodology

The guiding concepts or building blocks of design are learning, difference, systems and social creation. Learning, the first idea of design methodology, begins with a description of the environment. Through description and understanding, collection occurs, leading to an appreciation of the characteristics of the system. The comprehension of explicit learning leads to expectations or a common understanding of opportunities, not just reactions after a failure to anticipate actions. An example of learning, in the context of design, at the operational level looks at the study of Afghanistan by intelligence professionals in the circumstances during the each phase of the operation. For instance, early in 2002, U.S. forces solely viewed enemy targets in Afghanistan as Al-Qaeda, Taliban or foreign fighters. Years later, intelligence staffs understood their role changed requiring the in-depth study of military, political, economic and social conditions to understand the threat in context of the stage of the operation. Through dialogue,

³⁷ Ibid, 1-24.

intelligence professionals utilize the learning theory of design to rapidly adapt understanding in context of space and time.

The second idea of design focuses on differences. The driving forces behind design are the differences in perspectives, frames, and theories to each actor. More clearly, each actor within an environment holds his or her own experiences as a boundary to progress. Changing this boundary requires an understanding of power. For instance, power is present in all relationships, diffused in wealth, information or images.³⁸ To understand how one actor works within this environment requires listening to his or her understanding of how power works and why institutions behave in different manners.³⁹

The idea of differences exists in intelligence analyst's Don McDowell's book *Strategic Intelligence*, when he explains that covering all events requires starting at one point along the chain of activity and working forward.⁴⁰ This view, described as thinking downstream is juxtaposed with the idea of working backward or upstream to ensure coverage of all events. McDowell further explains that, "By constantly asking 'Why did that happen?' and then proceeding to a range of 'So what?' impact questions, an eventual grasp of the network appears with a topic."⁴¹ Intelligence staffs using design's idea of differences should apply this to their understanding of power structures within the country of Afghanistan. Tensions amongst tribal

³⁸ Anssi Passi, "Boundaries as Social Processes: Territorial in the World of Flows." David Newman, ed. *Boundaries, Territory and Postmodernity*, special issue of *Geopolitics* (Frank Cass, 2002), 82.

³⁹ Anssi Passi, 82. Another example explaining these differences lies in the individual's view of the end result. Francois Jullien, a French Sinologist and Professor at Paris Diderot University, explains these ideas through differences in perspectives of thoughts by Westerners and Easterners. Efficacy, the goal of Easterners, is the property of transcendence, where a fluid, indistinct state of nature accepts the difference in the primary distinction, emphasizing transition of reality.³⁹ In opposition, the Western approach is effectiveness, where an operative dimension attempts to create an effect.³⁹ The examples given here are creative depictions of tensions within the environment. The goal of this idea of difference leads individuals to better develop questions and understand the environment. Francois Jullien, *A Treatise on Efficacy: Between Western and Chinese Thinking*, (Honolulu: University of Hawaii, 2004), 129-135.

⁴⁰ Don McDowell, *Strategic Intelligence: A Handbook for Practitioners, Managers and Users*. (Lanham, Maryland: The Scarecrow Press, Inc, 2009), 112.

structures, history, background and languages all provide new cues, thoughts and ideas to create a bigger story to understand the intelligence environment. Intelligence staffs that look at the identity of groups and understand the creative tensions amongst each tribe in Afghanistan have a greater understanding of the intelligence required for actions within individual regions.

Understanding complex adaptive systems is the third idea of design. Professor Yaneer Bar-Yam, founding president of the New England Complex Systems Institute of Harvard University, defines understanding complex systems as an approach to discovering patterns, multi-scale perspectives (the way different observers describe a system), the evolutionary process creating the complex system, and the global directed behavior.⁴² What makes these systems complex are the organizations that have at least as much complexity as the environment.⁴³ Bar-Yam's insight concludes that by focusing on small-scale details one runs the risk of missing the larger picture.⁴⁴ There is difficulty when working with a complex adaptive system to balance the dynamic interactions of the systems' responses.⁴⁵ The value of holistically understanding the entire system results in actions to mitigate problems.

A systems approach begins by taking a critical view of the narrative of a historical event. This view leads to critical thought as described by Carl von Clausewitz. In Clausewitz's dictum, tracking the critical analysis and employing the critique into synthesis moves a person to real understanding.⁴⁶ Understanding the critical narrative and the interrelationship of events develops

⁴¹ McDowell, 112.

⁴² Yaneer Bar-Yam, *Making Things Work: Solving Complex Problems in a Complex World*, (Massachusetts: NECSI Knowledge Press, 2004), 16.

⁴³ The U.S. Army itself is a complex adaptive system that operations within a complex adaptive system. Within this monograph the complex adaptive system exists in Afghanistan.

⁴⁴ Bar-Yam, 26.

⁴⁵ Bousquet, 177. This is the idea of the edge of chaos, where the behavior which components of the system never lock into place. This is the fine line of efficiency and effectiveness that never dissolves. Instead it morphs into turbulences, reactions to the world, spontaneous, adaptive and alive.

⁴⁶ Carl von Clausewitz, *On War*, Edited and translated by Michael Howard and Peter Paret, (New York: Alfred A. Knopf, 1983), 156.

knowledge. Intelligence staffs use the appreciation of complex adaptive systems by exploring the interrelationships of complex actors and dynamic relationships. Specifically, human intelligence specialists develop systems by identifying events, documenting occurrences and creating artifacts used as evidence to model entities in Afghanistan. This iterative, on-going process is simultaneous and uses multiple inputs to understand the interaction, interrelationships and interdependent elements forming the complex system.

The last idea of design, social creation, results from effective groups who learn together through analysis and discourse. Developing shared understanding, through discourse, is the nexus of ideas and practices that reproduce social reality and a certain set of power relations within it.⁴⁷ Discourse, defined by Antoine Bousquet, a lecturer in the International Relations at Birkbeck College, University of London, is a way of knowing how to interpret reality and express, through metaphors, potential in social institutions.⁴⁸ Amongst the Department of Defense, discourse is enriched by the involvement of the entire intelligence community. The involvement of agencies such as the National Security Agency, Central Intelligence Agency, and the Defense Intelligence Agency allows leaders within the intelligence community to share knowledge as a construct. The collective group then utilizes the results of discourse and the collective understanding. Karl E. Weick explains the results from discourse as the development of plausible explanations.⁴⁹ This may not be the explanation but by discourse a story is developed first, revised, enriched and replaced.⁵⁰ The four core ideas of learning, difference, systems and social creation combine to form the framework of the design cycle methodology.

⁴⁷ Antoine Bousquet, *The Scientific Way of Warfare – Order and Chaos on the Battlefields of Modernity*, (New York: Columbia University Press, 2009), 14.

⁴⁸ Ibid., 14.

⁴⁹ Karl E. Weick, “Leadership When Events Don’t Play by the Rules” *Leading in Trying Times Series* (University of Michigan) <http://www.bus.umich.edu/facultyresearch/research/TryingTimes/Rules.htm> [accessed on March 4, 2010].

⁵⁰ Ibid.

Design's Three Frames

In military design the three frames drawing from design theory are the environmental frame, problem frame and operational approach.⁵¹ The first area of understanding develops the environmental frame and begins with the process of divergence.⁵² This is the graphical and narrative description that captures a shared understanding of history, the current state and future goals of actors. Developing the environmental frame helps determine why the situation developed. Then observing the system through a construct like political, military, economic, social, infrastructure, and information with the addition of physical environment and time variables (PMESII-PT) allows for the analysis of both relevant actors and their relationships.⁵³ Deconstructing this analysis to its purposefulness, or understanding why actors do what they do, results in the logic of transformation. This list of conditions describes the prevalent context in order to guide a transformation between the observed and desired system.

An example of the process of divergence looks at Afghanistan's history and the struggle between itself and external actors who have attempted to colonialize or annex the state. The

⁵¹ Understanding the relationship between design theory and military utilization of design theory is perhaps best approached by way of analogy to the creation and cooking of a soup. In order to accomplish the mission, a cook requires four basic tools; a heat source, pot, ladle and bowl, representing the four ideas of design methodology. To create a more complex dish, analogous to the move from design theory to military design, the cook is required to understand ingredients that exist in the kitchen and their influence on the soup. In other words, the cook needs to understand the environment. In doing so, the cook has employed the first of design's three frames, the environmental frame, in understanding what the soup consists of. As the soup cooks the second frame of design, the problem frame, emerges as the meal progresses and the cook tests the creation. This results in recognition that, at times, the problem, represented in this case by the soup, does not agree with the cook's taste. This necessitates the cook's return to the environmental frame, again represented by analogy as the ingredients in the kitchen, and look for something else to add to the soup. Once an ingredient is added, the soup, or problem has been reframed. This brings the cook to the last frame of design or operational approach. Using a tool from the foundations of design, the spoon in this example, the cook scoops out enough food to meet the need of the situation. Thus, the operational approach, or amount of soup, meets the need of the person the cook feeds. (The idea of eating soup from a knife comes from T.E. Lawrence's quote "like eating soup with a knife" T.E. Lawrence, *Seven Pillars of Wisdom*, (London: Penguin, 1926), 182.)

⁵² Divergence used in the context of design explains differences or where something departs a common point or from the norm.

⁵³ DoD, *FM 2-0: Intelligence*, 1-2.

current state of Afghanistan is framed as a state that is not only one of the poorest nations on earth but in addition, a country that resides between Iran and Pakistan, two potentially nuclear-armed states. The future goals of actors remain wedded in preventing annexation of the state and require resolution to internal tribal feuds.

After an initial frame of the environment a problem statement emerges. The transformation of problem framing focuses on problems the military intends to address. This sets the stage to conduct actions in an operational environment and requires an acknowledgement of assembling the right problem.⁵⁴ Beginning with a set problem frame allows for the implementation of actions, followed by the art of improvisation.⁵⁵ Applied to the strategic, operational or tactical levels of warfare, all of these ideas are defined in design as problem situation, problem framing and problem reframing.

The problem situation in a complex environment begins with a situation where interactions among elements in an environment are influenced by multiple factors and that the predictability of later events is impossible.⁵⁶ Therefore, designers use an operational problem to define what actions to take in order to change the current undesirable condition to an acceptable condition. Setting the problem within a context requiring a framework takes a non-linear approach to understanding the self-organizing, emergent, and dynamic feedback loops of the system.⁵⁷ A conceptual understanding of the problem leads to more efficiency in various activities across the

⁵⁴ Manuel DeLanda defines assemblage theory in his work, *A New Philosophy of Society: Assemblage Theory and Social Complexity*, (London: Continuum, 2006), 70. Assemblage theory looks at relationships and their emergent behavior. In addition, assemblages are complex and non-linear. Bousquet explains assemblages as actors working together, connected and identified with value and meaning greater as grouping than as individual entities. Bousquet, 18.

⁵⁵ Schon, 13.

⁵⁶ Robert Axelrod and Michael D. Cohen, *Harnessing Complexity*, (New York, Basic Books, 2000), 7.

⁵⁷ Gharajedaghi, 107.

intelligence community with an end result of increasing the potential for greater effectiveness.⁵⁸ Thus, instead of merely relying on priority intelligence requirements, intelligence practitioners use design to acquire a holistic study of the environment.

Problem framing begins with an established initial question or statement about the factors defining the operational environment.⁵⁹ This statement explores and analyzes the positive, neutral, and negative implications of tensions in the environment.⁶⁰ By setting the problem in a context, implementation of a solution is possible, whereas an expectation of resolution emerges. According to intelligence theorist Donald McDowell, “placing an intelligence problem in its appropriate context is pivotal to the future development of the intelligence process, and it is this conceptual focus that facilitates all further activity.”⁶¹

Testing the relevance of the problem statement, through both dialogue and a theory of action, creates a story.⁶² Thus, the narration changes as an organization adapts to the operational environment. If adaptation does not correctly solve the framed problem it is necessary to begin the iterative process of problem reframing. In essence, it is possible to understand the right problem but impossible to create the capacity to solve it. An example of this quandary occurs in Afghanistan when intelligence officers study the long-term assessment of the illicit drug problem. The understanding of most intelligence officers is that a problem exists within the framework of the entire opium trade but creating the capacity to change this system does not fit the realm of Department of Defense operations and requires significant input from law enforcement agencies.

⁵⁸ McDowell, 113.

⁵⁹ DoD, *FM 5-0: The Operations Process*, 3-52.

⁶⁰ Ibid., 3-55.

⁶¹ McDowell, 109.

⁶² The theory of action is a single logic that binds together the pattern of actions into a coherent whole. The theory of action is defined as a hypothesis about the nature of the problem together with a proposed solution. United States Department of Defense, *United States Army Field Manual Interim 5-2: Design*, (Washington, DC: Government Printing Office, 20 February 2009), 3-30.

Reframing requires a new view of seeing and understanding the existing system. This generates a different construct to understand the system. Reframing is qualitative, discontinuous, non-linear, creative and divergent.⁶³ There are often three situations requiring reframing. The first, reinterpretation of thinking, comes with the confrontation of a new, complex or intricate issue whose classification into a previously created category does not fit.⁶⁴ This situation occurs when the problem is out of tolerance with the current propensity.⁶⁵ An example of this reframing occurred immediately after September 11, 2001 when the United States was the target of a major terrorist attack. Reframing on a new dynamic threat facing America required the intelligence community to drastically shift its focus.

Second, reframing occurs when proper categorical concepts are lacking to interpret the new development or phenomenon.⁶⁶ An example of this type of reframing occurred within the military when, upon entry into Afghanistan, captured Taliban fighters without a direct link to Al-Qaeda, were categorized as enemy non-combatants. The categorical concepts of interrogation techniques against prisoners of war taught to human intelligence soldiers did not fit the framework of questioning enemy non-combatants.

Third, reframing occurs when a perspective challenges a previously held conception.⁶⁷ For instance, during the Cold War military intelligence analysts believed that knowing the enemy's order of battle required simply counting mechanized vehicles on the battlefield. Previously this analysis provided a predictable understanding of the operational environment. This paradigm was

⁶³ Zvi Lanir and Gad Sneh, "The New Agenda of Praxis," (Tel Aviv: Praxis, 2000), 28.

⁶⁴ Ibid., 13.

⁶⁵ The organic tendency of the system, which does not account for the influence of external actions. The propensity of a system is not deterministic. It identifies a range of possible futures if the system is allowed to evolve without intervention as described in DoD, *FMI 5-2: Design*. *FM 5-0: The Operations Process* uses the term "transition" in lieu of propensity. DoD, *FM 5-0: The Operations Process*, 3-11.

⁶⁶ Lanir and Sneh, 15.

⁶⁷ Ibid.

completely shattered in Afghanistan when conventional forces and intelligence collection were used unsuccessfully to fight an asymmetrical battle. Intelligence collection, therefore, required massive problem reframing to fit new concepts of information collection.

Problem reframing is necessary or desirable after interactions with an injection of forces into an operational environment. Reframing shifts attention from trying to address the problem initially asked, to asking whether the right problem is even being addressed.⁶⁸ Problem reframing causes participants to reflect on events and occurrences. This requires a staff to return to the initial frame, in the environmental space, and relooking at the process in the context of the new actor or force introduced into the operational environment. Even Clausewitz opines that a critical inquiry requires questioning whether the result of an action conformed to the intention of its aim.⁶⁹

Problem reframing looks at the limits of tolerance and understanding the system's behavior. When the system moves outside of its boundaries a reassessment must occur. Developing another definition of the problem provides planners options similar to what doctrine currently describes as a decision matrix.⁷⁰ In *Field Manual 5-0: The Orders Process* branch plans and sequels provide alternative options for courses of actions. Reframing serves a similar potential, as branch plans and sequels, to redefine the problem as it evolves.⁷¹ Reframing, as opposed to only using branches and sequels, requires a return to the environmental frame and restructuring the approach to frame a new problem.

⁶⁸ Schon, 270.

⁶⁹ Clausewitz, 182.

⁷⁰ In addition to the decision matrix FM 5-0 recommends branch and sequel development. DoD, *FM 5-0: The Operations Process*, 4-37.

⁷¹ T.C. Greenwood and T.X. Hammes, "War Planning for Wicked Problems: Where Joint Doctrine Fails," *Armed Forces Journal*, December 2009/January 2010, 22.

The practice of the design approach to problem solving is learned through focused, deliberate action.⁷² Often during these actions, interests change. Accompanying this transformation in thought requires a learning organization with trusted agents to provide honest and candid feedback to problem understanding.⁷³ Schon uses the ladder of reflection to explain problem understanding. Lawson, uses moves to describe why organizations require a balanced, creative tension during the design methodology.⁷⁴ The key feature of applying the practice of design to a complex situation is problem understanding. Through problem understanding, problem framing and problem reframing, staffs derive a more optimal solution state. The continuous monitoring and evaluation of the situation, through collection and assessments, provide designers with the best possible understanding of the problem frame.

The final approach to design utilizes convergence within the operational approach, where the operational approach focuses on a broad method to solving the problem. In the area of the operational approach, the potential answers or management of the solution of the problem arises. The military recognizes potential actions in time, space, purpose, resources, risk, areas for intervention, areas for exploitation, and select boundaries for action as all portions of the operational approach.⁷⁵ Answers from this frame are the springboard for planning and operationalization of actions.

⁷² DoD, *FM 5-0: The Operations Process*, 3-57.

⁷³ Schon, 72.

⁷⁴ Schon describes the ladder of reflection as questioning, answering, advising, listening, demonstrating, observing, imitating, criticizing are all chained together so that one intervention or response can trigger or build on another. This dimension of analysis allows for higher levels of activities or meta to those below allowing for reflection on activities just performed while also allowing the movement down to relook at past actions. Schon, 114. Whereas, Bryan Lawson's definition of moves develops the idea of vertical moves as development and lateral moves describes ad interpretative. Both activities "transform an existing idea into a different one albeit carrying through some of the original characteristics." Lawson, 296.

⁷⁵ DoD, *FM 5-0: The Operations Process*, 3-60, 61, 62.

Counterpoints and Criticisms of Design Theory

Design does not replace other doctrinal approaches to problem solving. Instead, design theory complements multiple doctrinal approaches to problem solving. The elements of operational design, already existent in doctrine, provides a check-listed structure to preexisting doctrine used at the strategic and operational levels. In addition, other approaches to problem solving are the joint operations planning process (JOPP) and the military decision making process (MDMP) which provide defined steps to conduct the planning process. The MDMP tool, in use for over two decades, adequately prepares a staff for defined actions.

Within the intelligence community, time in the planning process initially focuses on mission analysis, the first step of JOPP and MDMP. The intelligence processing of the battlefield, a thoroughly developed and exceptional tool for battlefield staffs, works hand-in-hand with the intelligence cycle, the targeting cycle, and collection process. Most recently in Afghanistan uses of intelligence to drive maneuver resulted in successful operations. Limitations arise because intelligence collected at the tactical level searches for hard scale and specific framed information within a unit's scope. These limitations led to the traps of the commander's critical information requirement (CCIR) which link narrowly defined priority intelligence requirements (PIR) with selective friendly forces information requirement (FFIR). Collection managers who create collection plans to only answer PIR without understanding the decisions linked to the CCIR fall into the trap of looking for a needle in a haystack. The macro view ignored by collection managers might attest to the fact that the haystack is instead full of needles, pins, and nails. Failure to ask the, "right question of, '[w]ho is our enemy?' and '[d]o we know (understand) him?'" prevents staffs from understanding the operational or strategic problems.⁷⁶ To succeed in

⁷⁶ Joseph Henrotin and Tanguy Stuye de Swielande, "Ontological-Cultural Asymmetry and the Relevance of Grand Strategies, *Journal of Military and Strategic Studies*, Winter 2004, Vol 7, Issue 2, 13.

asking the right question, a macro vision of intelligence staffs is required. Design provides a path to build upon preexisting doctrinal approaches to problem framing.

Several criticisms arise when the design methodology is introduced to a staff. One of the first criticisms of problem framing occurs when commanders fail to concern themselves with the process and instead ask when should the staff conduct design and who is involved. A commander who creates a team haphazardly and late in the planning process fails to utilize design's potential. Commanders, a critical component of the design methodology, can choose not to participate until late in the planning process, often receive an incoherent design product. For example, commanders who fail to participate during the initial stages of problem framing and campaign design, fall short when creating plans or operations.⁷⁷ Without participation from the commander, the design methodology fails to fully exploit the potential of the methodology.

A second strong critique of the design methodology lies in the transition from designing to planning. Lack of doctrinal templates to explain this transition leads to what Dietrich Dorner explains as problems with sequential planning. Professor Dietrich Dorner, dean of the General and Theoretical Psychology at the Institute of Otto-Friedrich University in Bamberg, Germany, believes that sequence of "insecurity" leads to "precise planning" which results in "greater insecurity."⁷⁸ The reaction of a staff is then, "even more precise planning" leading to the "dim awareness that one is not coping with the real problem" resulting in the staff's refusal to make a recommendation and the commanders "refusal to make a decision."⁷⁹ In other words, difficulty in determining when understanding is complete or sufficient enough to engage in planning the operation occurs with most military designers. The difficulty of changing over from

⁷⁷ Greenwood and Hammes, 22. When commanders fail to participate in the creation of key assumptions, restraints and constraints during the initial framing of the environment and problem framing they fail to create a full design or plan.

⁷⁸ Dietrich Dorner, *The Logic of Failure: Recognizing and Avoiding Error in Complex Situations*, (New York: Basic Books, 1996), 164.

⁷⁹ Ibid.

understanding the operational environment to planning the operation requires either a combined design and planning group or a good transition between both groups.

The last critique of design lies with weaknesses inherent in the design methodology. A problem with design, according to Schon, is that it cannot be taught due to the uncertainty, uniqueness and conflict. In Schon's words, "frame experiments impose coherence on messy situations and discover consequences and implications of chosen frames."⁸⁰ Therefore, design must be learned. The evolution of design continues within the Army without a strict doctrinal process. Don McDowell writes in *Strategic Intelligence* that, "often, operational or field experience is so focused on specific issues and targets that you just do not have enough time to get familiarized with the full range of the many aspects."⁸¹ Thus, because design does take time, initially, to familiarize the design team with the environment, many fail to even begin the process. This monograph asserts that time taken to understand and practice design results in relevant and usable intelligence for commanders.

Context of Case Studies

The context of the two cases over the seven year period of 2002-2009 looks at narcotics trafficking, a growing insurgency, political instability, social, educational and economic problems throughout Afghanistan. The two months chosen for study reflect periods where the environment drastically changed. This monograph studies whether or not the environmental changes should have compelled American forces to reframe the problem they faced in Afghanistan. Knowing that each stage of war requires a complete comprehension of the adversary in the moment, design acknowledges that changes in the environment drive both problem reframing and necessitate

⁸⁰ Schon, 157.

⁸¹ McDowell, 109.

change in the operational approach.⁸² The two time periods used in this study look beyond the enemies' fighting strength or location where force-on-force actions occurred. Instead, through the lens of intelligence professionals, these periods acknowledge in addition to the threat, governance, stability and economic problems are key components to the operational environment.

The sources reviewed in analyzing each case were Department of Defense publications, scholarly journals and major news media publications.⁸³ Viewing each time period as a part of the larger picture, each case focuses on the conversation or narrative ongoing within the media or think tanks studying Afghanistan during the time period. This analysis looks into indicators whether or not the environment required problem reframing. These documents, taken solely in context from the two months analyzed, are juxtaposed against the four design criteria and indicate support for each criterion. To quantify the four criteria, a scale of three levels was used in this study to tally the existence of variables present. Observations of variables supporting each criterion were categorized as minimal, moderate or significant. Thus, insignificant environmental indicators within the case timeframe resulted in a minimal ranking of that criterion. Moderate support of variables within the case study indicated many of the variables were used but a nominal amount of action occurred within the month. Criteria that received substantial attention met the significant level in the context of each case.

Case 1: Afghanistan September 2005

The first case study examines the opportunities for operational reframing that presented itself with the election of the *Wolesi Jirga* in September, 2005. To briefly summarize events

⁸² Joseph Henrotin and Tanguy Stuye de Swielande, "Cultural-Cultural Asymmetry and the Relevance of Grand Strategies, *Journal of Military and Strategic Studies*, Volume 7, Issue 2, (Winter 2004), 17.

⁸³ The Department of Defense documents used were articles from Defense Link, Parameters Journal and the Center for Military History publications. Scholarly journals consulted were RAND, the Journal of Military and Strategic Studies and the Center for Strategic and International Studies. Major news media outlets consulted were ABC, CBS, NBS, The Wall Street Journal, The New York Times, and the

leading up to this time period requires consideration of the strategic environment following the Al-Qaeda terrorist attacks on the United States on September 11th, 2001. Initial entry into Afghanistan by Special Operation forces occurred almost immediately after the terrorist attacks. Following 2002, both special operations and conventional forces operations led to the establishment the interim President Hamid Karzai. The government emplaced by Karzai lends credence to understanding the significance of this period.

In September 2005, United States Secretary of State Condoleezza Rice and other international observers hailed the election of the *Wolesi Jirga*, or lower house of parliament, as a significant process to rid the country of its Taliban roots.⁸⁴ These elections created a body of officials responsible for writing laws, approving executive initiatives, and exercising both budgetary and treaty authority.⁸⁵ The turnout of the election varied widely by province with a national average of 50 percent participation. The end result was that the United Nations suspected widespread fraud but only rejected two percent of the ballots.⁸⁶ In contrast, the Afghan Independent Human Rights Commission estimated over 50 percent of the victors of the national parliament were linked to militias, with the figure rising to 80 percent of provincial winners.⁸⁷ Aside from the fraud, the bright point of the election turnout came from the largely violence-free environment throughout the country.

Although the elections were free of violence, the country was not free from insecurity. From January to September 2005, the Taliban insurgency killed more people up to this point than it had

United Press International. Lastly, testimony from the World Bank and United Nations was used as a source for information published during both case periods.

⁸⁴ Laura Demetris and John Ratcliffe, "Post Conflict Reconstruction: Policy Brief" *The Center for Strategic and International Studies*, Washington DC, November 2005, 1.
http://csis.org/files/media/csis/pubs/051129_afghan_election_brief.pdf [accessed January 10, 2010]

⁸⁵ Ibid.

⁸⁶ Ibid., 2.

⁸⁷ Ibid., 3.

in any other year stemming back to 2001.⁸⁸ Crime was the chief security concern of the Afghan populace. The majority of the Afghan public welcomed international forces in 2005 and viewed the Afghan National Army as a symbol of national unity.⁸⁹ Aside from the public support of the Afghan National Army weaknesses remained in security and stemmed from the Afghan National Police's weak reputation in protecting the populace in local areas.⁹⁰ Another weakness in governance stemmed from a lack of a formal justice system to confront impunity or criminal networks, adjudicate land disputes, or protects citizens' rights.⁹¹ Reliance upon traditional methods of justice over formal justice institutions continued across most of Afghanistan.

With regard to security provided by the United States less attention and resources were paid by the United States government when compared to Iraq in September 2005. There were nearly 18,000 U.S. forces serving as part of a coalition force in Afghanistan compared to 152,000 troops in Iraq.⁹² In addition to troop disparity a focused poppy eradication effort, not a part of the U.S. policy until early 2004, occurred when the Bush administration and Congress called for an immediate crackdown on Afghanistan's biggest cash crop.⁹³ The economic growth unevenly

⁸⁸ Demetris and Ratcliffe, 4 and Morgan Courtney, "In the Balance, Measuring Progress in Afghanistan" July 2005. *The Post Conflict Reconstruction Project Summary Report*, 10. <http://csis.org/files/media/isis/pubs/inthebalance.pdf> [accessed January 22, 2010].

⁸⁹ Courtney, 10. Two-thirds of the U.S. assistance to Afghanistan supports the U.S. troop presence there and out of the remaining \$5 billion per year, \$3 billion goes to supporting the ANA. The ANA was planned to grow to 70,000 but by mid-2005 it had only reached the level of 23,000 trained soldiers (Courtney, 16-18).

⁹⁰ Ibid. This is further highlighted when viewing the pay discrepancies between the ANA and ANP. Whereas a police officer makes only twenty percent of what an officer in the ANA makes. (Courtney, 23). The discussion of the Afghanistan's capability to provide security during the elections was addressed by the British Army Lt. Col Guy Deacon, a deputy director in the Office of Security Cooperation Afghanistan's Defense Reform Directorate, when he stated this was the first time the ANA has deployed to every Afghan province. Lynnette M. Jefferson, "Afghan Police, Army Ready to Secure National Elections," *American Forces Press Service*, Kabul, Afghanistan, September 17, 2005.

⁹¹ Courtney, 12.

⁹² Sara Wood, "Bush: Afghanistan Proof of Progress in War on Terror," *American Forces Press Service*, Washington, September 22, 2005.

⁹³ Peter H. Reuter and Victoria A. Greenfield, "Opium and Democracy", *United Press International*, May 4, 2005.

spread across the country with the main source of revenue provided through illicit means.⁹⁴ As a result, international spending accounted for 90% of Afghanistan's total budget, with the United States spending \$15 billion per year.⁹⁵ Although the intended effect on undercutting the illegal drug trade was to bolster a sound economic system in Afghanistan, the opposite occurred. Thus, the United States spent more resources to foster a barely functioning economy in September 2005.

Social well-being continued to lack in the most basic of services. Power, roads and water resources, especially in rural areas, were inadequate. The growing population of 4.8 percent per year placed an enormous burden on a weak education structure. The pressure on primary schools, absorbing nine out of every ten children who returned to school in 2003, overwhelmed the capacity of the public education system.⁹⁶ By September 2005 schools were scarcely operating.

In addition to poor infrastructure, elected officials failed to understand the importance of security and capacity building. This awareness was not inherent in the newly elected body as few elected individuals had any previous governing experience. One of the strongest threats to democracy in Afghanistan was corruption, where agenda-driven patronage impelled most elected officials' actions. A large risk of institutionalized drug interests at the parliamentary level undermined international efforts to interdict the flow of drugs from the country.⁹⁷ Rule of law did not exist and few legitimate sources of income pushed Afghans into poppy farming as their sole economic means. In September 2005, international actors began to worry that Afghanistan would become a kleptocracy or narco-state. At the local level the chief concern remained security

⁹⁴ Courtney, 13.

⁹⁵ Ibid., 16.

⁹⁶ Ibid., 21.

⁹⁷ Demetris and Ratcliffe, 3. Of the \$2 billion that the U.S. spends on non-security related programming, the majority is spent on counternarcotics and election assistance as quoted in Courtney, 17.

against violence and crime.⁹⁸ Thus, framing the environment and problem within one month resulted in an understanding that violence free elections did not reflect a violence free Afghanistan. Fractures in the social, political and economic systems indicated the divergent requirements of actors at the local, national and international level leading to possible failures in the nation state of Afghanistan.

Criteria 1: Experimentation

Observations of the first evaluation criteria to the time period of September 2005 display a minimal increase of experimentation by leaders. During and immediately following the elections, efforts focused on areas where the Taliban retained a stronghold. Therefore, the vast majority of operations occurred in a few provinces. A minimal effort by United States Armed Forces to reflect-in-action focused on changing their approach to issues, specifically the growing problem of an Afghanistan economy based on the illicit drug trade.⁹⁹ The strategic context of the elections, immediately following them, received limited focus by military leaders and minimal change occurred.¹⁰⁰ Thus, variables indicated only a minimal level of experimentation.

Criteria 2: Learning

The second evaluation criteria, learning, had a moderate impact on military leaders and their consideration of the problem facing Afghanistan. In most peacekeeping missions, as tracked by

⁹⁸ Courtney, 18.

⁹⁹ The analysis of leaders within each criteria focus on actions by both International Security Assistance Forces (ISAF) and the Coalition Joint Task Force (CJTF) leaders during the time period. The majority of the inactivity during the September 2005 time period focused on the inactivity of the ISAF leadership.

¹⁰⁰ Though multiple press reports began to write that 2005 was the most violent year in Afghanistan since the overthrow of the Taliban government in 2001. As written by journalist Seth G. Jones, "The number of Americans killed so far in 2005 (74) is a 570 percent increase from 2001 and a fifty percent increase from 2004. In addition, the number of insurgent attacks against Afghan civilians has steadily increased each year since 2001." Seth G. Jones, "The Danger Next Door," *The New York Times*, September 23, 2005.

the United Nation, after five years of operating a 50% recidivist rate occurs in the support of each mission.¹⁰¹ This example of learning during operations understood the decreasing support of the international community to Afghanistan following the elections. By September 2005 the international community acknowledged that a decrease in effort of humanitarian actors would soon occur following the elections.¹⁰² Afghanistan began using the military as the single entity to fulfill multiple functions of the government. Training police and military was a significant need that only the U.S. Armed Forces could meet. No discussion on the increase of Afghan National Police or Afghan Armed Forces was found during this time period.¹⁰³ The significance of a lack of information covering the training of security forces indicates a lack of knowledge that a problem existed. The social, economic, and institutional indicators were moderately reported and studied because of the elections overshadowed all other reporting.

Criteria 3: Discourse

The third evaluation criteria, discourse, observed during September 2005 displayed moderate impacts on reframing the problem. Governance, a set of institutions by which authority in a country is exercised, remained a key challenge and received acknowledgement by multiple players.¹⁰⁴ The government's ability, at the national or sub-national level, could not meet the demands of the populace to establish law and order, manage resources, or implement sound

¹⁰¹ Antoine H. Cordesman, "Armed National Building: The Real Challenge in Afghanistan," *The Center for Strategic and International Studies*, November 2007, slide 99
http://csis.org/files/media/csis/pubs/070521_uncertainmetrics_afghan.pdf [accessed November 20, 2009].

¹⁰² Ibid.

¹⁰³ Reports by the Department of Defense stated only the numerical status of the Afghan National Police (50,000) and the Afghan National Army (30,000). Sara Wood, "Afghans Enjoy Successful Election Day," *American Forces Press Service*, Washington, September 19, 2005.

¹⁰⁴ World Bank, *Governance Matters 2006: Worldwide Governance Indicators* World Bank Policy Research Working Paper No. 4280, July 2007, 2.
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=999979 [accessed on November 20, 2009].

policies.¹⁰⁵ Acknowledging the shortfall of a strong centralized government remained at the forefront of military and civilian leaders dealing with Afghanistan. Redrawing the boundaries of responsibility and suitable solutions to the situation in Afghanistan was openly discussed at multiple levels of government and within the international and national media.¹⁰⁶

Criteria 4: Generating Tools

Finally, using generating tools to understand the scale minimally indicated a need to reframe the problem. The macro view of governance indicated that security at the region, town, and village levels remained the largest problem in Afghanistan. Military leaders realized that the number of battles won or number of Taliban killed was not as significant as identifying where the gaps in security existed and how to close the gap. Overall a lack of focus on understanding the problem at multiple levels was not in the scope of information available to intelligence professionals in September 2005.

In conclusion to Case 1, September 2005, the analysis of the observed time period indicates a minimal to moderate emphasis from the intelligence community to commanders in their need to problem reframe. The criteria of learning approach and discourse were moderate in indicators pointing to a reframing but experimentation and generating tools were minimal.

Case 2: Afghanistan July 2007

The second timeframe of this case study, July 2007, focused on changes in the operational environment of Afghanistan after almost six years of American troops conducting operations in

¹⁰⁵ Seth G. Jones, "The State of the Afghan Insurgency" Testimony before the Standing Committee on National Security and Defense, The Senate of Canada, December 10, 2007, 4. http://www.rand.org/pubs/testimonies/2007/RAND_CT296.pdf [accessed on March 24, 2010]

¹⁰⁶ Afghanistan did welcome the release of a feasibility study by the Senlis Council, a drug policy research organization in Europe, to license its illicit crop of opium to produce opium-based medicines. Habibullah Qaderi, Afghanistan's counternarcotics minister ruled out adopting a program to legalize cultivation until improvement occurred in the security conditions in Afghanistan. Reported by Carlotta Gall, "Study Proposes Opium Licensing for Afghanistan," *The New York Times*, September 27, 2005.

the country. By 2007, the increase in cultivation and production of poppy supplied the global heroin trade. Heroin stood as almost the sole revenue for the resurgent Taliban and increasingly fed the corruption amongst warlords and Afghan government officials.¹⁰⁷

The security situation in Afghanistan according to a July 2007 report by the U.S. Central Intelligence Agency estimated a total of only 143,500 security personnel (a combined total of 85,000 Afghan personnel, 35,000 NATO personnel and 23,500 U.S. personnel) with a country of nearly 32 million people.¹⁰⁸ This amounted to less than half of one percent of the population receiving person-to-person security. In comparison, the proportion of troops to population in Afghanistan was considerably lower than those previously assigned to secure Bosnia or Iraq.¹⁰⁹ The security incidents, tracked by the United Nations Department of Safety and Security, “indicated their highest level to date in July 2007 with over 700 incidents.”¹¹⁰ The changing nature of violent clashes, when compared to the same time a year prior, increased in the numbers of combined arms clashes and asymmetric attacks countrywide.¹¹¹ The growth of the Afghan security forces by July 2007 did increase the number of personnel assigned to the ranks.¹¹²

Unfortunately, both ANA and ANP were not capable of independent operations because of a lack

¹⁰⁷ John Godges, “Afghanistan on the Edge: A World at Risk of Winning the Urban Battle, Losing the Rural War, Abandoning the Regional Solution,” (Santa Monica, CA: RAND, 2007), 2. http://www.rand.org/publications/randreview/issues/summer_2007/afghan1.html [accessed on January 20, 2010]

¹⁰⁸ James Dobbin, Seth G. Jones, Keith Crane, Andrew Rathmell, Brett Stelle, Richard Teltschik, Anga Timilsina, “The UN’s Role in National-Building: From the Congo to Iraq,” (Santa Monica, CA: RAND, 2005) 318. http://www.rand.org/pubs/monographs/2005/RAND_MG304.pdf [accessed on January 11, 2010].

¹⁰⁹ UN’s Role in Nation Building showed Bosnia in 1995 as having nineteen Soldiers per thousand inhabitants and Iraq in 2003 with seven Soldiers per thousand inhabitants. In addition when comparing the amount of foreign aid to Afghanistan in 2007 it averaged less than \$50 per capita per year. When compared to Kosovo and Bosnia in the 1990s were, respectively, \$526 and \$679 per capita per year.

¹¹⁰ Cordesman, slide 22. Comparing this month from July 2003 where the UN tracked less than fifty incidents to 2004 and 2005 with over one hundred incidents. The rise of security incidents rose to over five hundred in 2006 and over seven hundred in 2007.

¹¹¹ Cordesman, slide 28.

¹¹² The ANA recruited nearly 79,000 soldiers by 2008. Michael O’Hanlon, “How to Win in Afghanistan,” *The Wall Street Journal*, November 14, 2008.

of training, equipment, finances and internal corruption. The lack of a legal infrastructure to support the police and stop corruption amongst the forces failed to allow the police to provide even a basic level of law and order. Rural areas still continue to recognize the jirga system of reprisals, or Code of Pashtunwali, against wrongdoers as the law of the land.

In July 2007, General Dan McNeil, the NATO commander in Afghanistan, acknowledged a major change in tactics when he uncovered that NATO forces tracked supply convoys from Iran into Afghanistan.¹¹³ This new form of resupply spoke to the changes in resourcing the enemy. The majority of the shipments came from the Quds Force, a paramilitary arm of the Iranian Revolutionary Guard Corps. Although a minor player in supporting the Taliban, by 2007 the interests shared by Afghanistan and Iran increased. In July 2007, two of the main sources that supported the Taliban were the international jihadi community, supported primarily through information support (the Internet), and financial donors abroad (primarily from the Persian Gulf Region).¹¹⁴ The second source of support came from the drug trade where levied taxes on farmers and secured bribes from drug-trafficking groups at check points provided resources. Lastly, outside states bordering Afghanistan, primarily Pakistan, provided assistance to the Taliban and other insurgent groups. Their support in July 2007 came in the form of training at camps in Pakistan, intelligence support, weapons trafficking and border crossing operations.¹¹⁵ The strategic significance changed the public scope of the operational environment.

Local governance in July 2007 continued to degrade the amount of humanitarian assistance across the country. According to a report of the Secretary General of the United Nations to the General Assembly on the Situation in Afghanistan,

at least 78 districts have been rated by the UN as extremely risky, and therefore inaccessible to UN agencies. The delivery of humanitarian assistance, in July

¹¹³ Seth G. Jones, "Afghan Problem is Regional," *United Press International*, July 4, 2007.

¹¹⁴ Ibid.

¹¹⁵ Ibid.

2007, became increasingly dangerous with the displacement of the population in the south owing to insecurity required the provision of food and non-food items to at least 4,000 families.¹¹⁶

At the national level of governance, the work of President Karzai through a poll received a 63 percent positive rating.¹¹⁷

By July 2007 the state of security had decreased to the point where even the United Nations questioned the ability to provide aid to Afghans in need. The increasing strength of the enemy was evident in the number of combined arms incidents attacking U.S. forces and the ability for the Taliban to increase its resources. The economic system in Afghanistan relied upon either aid from international donors or the illicit heroin trade with only a sliver of legitimate income flowing into the financial system of Afghanistan.

Criteria 1: Experimentation

The indicators to suggest problem reframing, by experimentation, reflected a significant change in July 2007 with the military's approach to tackling the problem. The multiple changes in the operational environment within the month of July 2007 pointed military leaders to the realization that ANA and ANP failed to meet Afghanistan's security needs. They were not trained and equipped, nor were they in the lead of security operations. Institutional training progressed but not at the operational tempo required to stabilize the country. Unit level training, by NATO led embedded training teams were slow in coming. The strategic context of this delay offered a significant need to reframe the problem by United States Armed Forces leaders. In conjunction, cross border attacks, which rose in June 2007, decreased in July 2007 because of the combination of Pakistani military operations along the border and increased presence of forces from the

¹¹⁶ Cordesman, slide 53. Quoting a report of the Secretary General of the UN to the General Assembly on the Situation in Afghanistan, September 21, 2007.

¹¹⁷ ABC News, *Afghanistan – Where Things Stand* Kabul: ABC News, BBC, and ARD, December 2007.

Combined Joint Task Force 82, NATO's International Security Assistance Force, and Afghan national security forces in larger sections of Afghanistan.¹¹⁸

Criteria 2: Learning

The second criteria, on which to judge potential problem reframing, received significant attention by use of the learning approach and assessments conducted in July of 2007. Leaders relooked their development of meaningful metrics of success. The idea of transparency began to flow through staff circles with an emphasis on no short-term solution.¹¹⁹ The lack of a quick fix to Afghanistan came with the understanding that on average it takes 14 years for governments to defeat insurgent groups.¹²⁰ Understanding this trend, leaders significantly refocused their viewpoint and definition of reality facing Afghanistan. Vocal opponents to the war in Iraq used the major news networks to juxtapose the vast inadequacies of Afghanistan's humanitarian assistance needs when compared to the surge of troops Iraq. The chairman of the Joint Chiefs of Staff stated in Jalalabad, Afghanistan on July 19, 2007, "We know that we need about another 30,000 troops to accelerate the training of the Afghan army."¹²¹ Immediately after that statement he admitted that military commitments around the world prevented the United States from adding forces into Afghanistan. Thus he further acknowledged a lengthened U.S. commitment in Afghanistan.

¹¹⁸ Army Major General David Rodriguez, commander of the Combined Joint Task Force 82 and the 82nd Airborne Division reported the challenges of the porous Pakistan-Afghanistan border region in the unauthored article "Afghan Army, Coalition Forces Repel Taliban Ambushes," *American Forces Press Service*, July 24, 2007.

¹¹⁹ Cordesman, slide 96.

¹²⁰ "Research that the RAND corporation has done indicates that it takes an average of fourteen years for governments to defeat insurgent groups. Many also end in a draw, with neither side winning. Insurgencies can also have long tails: approximately twenty five percent of insurgencies won by the government and eleven percent won by insurgents lasted more than twenty years. If one starts counting in 2002, when the Taliban began conducting limited offensive operations, history suggests that it would take on average until 2016 to win." Seth Jones, "The State of the Afghan insurgency" 6.

¹²¹ Jim Garamone, "Pace: U.S. Working to Send More Training Support to Afghanistan," *American Forces Press Service*, July 19, 2007.

Criteria 3: Discourse

The third criteria, discourse and collaboration between actors in and out of the military realm were significant during July 2007. The data collected during this time period indicates that a focus on operational objectives outweighed the open discussion and questions of the way things were done. The major media networks focused on the main story of the Taliban's abduction of 18 South Korean Christian church volunteers and the insurgents' demands.¹²² Additional indicators that an open discussion between the military and other non-governmental groups occurred within the press focusing on relationship and regional issues in Afghanistan providing options for the way ahead in Afghanistan. Another example of the significant discourse in July 2007 occurred inside academic circles with the reemerged discourse examining the tension between India and Pakistan.¹²³

Criteria 4: Generating Tools

Finally, application of generating tools received significant affirmation from the world press after a major suicide bombing in Pakistan mid-July 2007. The world wide attention refocused on the tribal area of North Waziristan and the attempt to persuade militants affiliated with the Taliban to stop the infiltration of fighters into Afghanistan.¹²⁴ The use of polling to measure local and regional attitudes began to identify gaps in knowledge about the Afghans view of security.

During the month of July 2007, another generating tool suggesting a significant indicator to problem reframe came with the introduction of the 207th Regional Security Assistance Command

¹²² Barry Bearak and Choe Sang-Hun, "Taliban Threaten to Kill 18 Korean Hostages," *The New York Times*, July 21, 2007.

¹²³ Since 2001, India has become Afghanistan's closest strategic partner in the region. The funds were used to support reconstruction projects and assistance to Afghan legislators. This alliance between India and Afghanistan has left Pakistan deeply insecure. The U.S. provided Afghanistan more than \$1 billion, since 2001, in financial assistance to Afghanistan overshadowed the tensions within the region. Jones, 9.

and the U.S. Department of Agriculture in Afghanistan. This unit attempted to solve Afghanistan's poppy problem by maximizing the output of different agricultural products. The unit set up a center with laboratories and classrooms, along with a fish hatchery, vineyards, orchards and beehives to help farmers learn economically viable alternatives to growing illicit poppy.¹²⁵ In an effort to shift the Afghan economic system from illicit trade organizations to a legal functioning financial system the leaders within the United States realized a systemic change required a new approach.

In conclusion to Case 2, July 2007, all four criteria indicated significant data to problem reframe.

Comparative Analysis

The findings in both case studies signify that varied indicators within the environmental frame lead intelligence professionals to potentially propose a problem reframe to their commanders.¹²⁶ In comparison and as displayed in Table 1, Case 2 calls for the strongest case to interject a suggestion of problem reframing by the intelligence community. In Case 2, the intelligence communities' ability to use discourse to fully discuss the military's commitment to stability operations and national building introduced the idea that departing Afghanistan within two years could result in Afghanistan as a fragile nation state.

<i>Criteria</i>	
Experimentation	Sep '05
	Jul '07
Learning	Sep '05
	Jul '07

¹²⁴ Somini Sengupta and Ismail Khan "Bombings in Pakistan Leave at Least 48 Dead," *The New York Times*, July 19, 2007.

¹²⁵ Brian M. O'Malley, "Civilian Job Skills Help Guardsmen Address Afghanistan's Poppy Problem," *American Forces Press Service*, July 26, 2007.

¹²⁶ Commanders are defined as leaders within ISAF and CJTF.

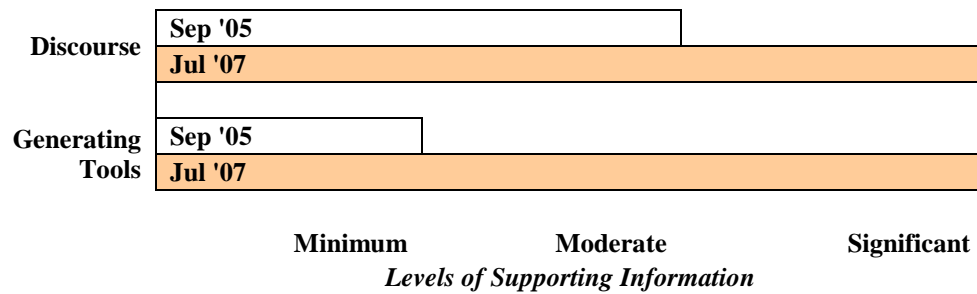


Table 1. Comparison of Case Studies

Afghanistan’s timeline to stability required significantly more time and authorities to counter the system of opposition.¹²⁷ In July 2007 all problem reframing criteria seriously suggested a reframing of the problem to counter forces acting against positive actors in Afghanistan. Whereas, Case 1, only moderately calls for another design iteration in suggesting problem reframing by the intelligence community. This time period, during an election cycle, brought with it the hopes of the Afghan people to create solutions to their own problems. Indicators of physical changes to their approaches in dealing with the lack of security or economic instability were undetermined and not significant indicators in September 2005. Afghanistan’s environment did not radically change because of local level elections and therefore, did not justify a need to suggest problem reframing to commanders.

Designs utility lies not solely in problem reframing but in the ability to use this methodology to holistically understand meaning behind actors’ narratives. A recent example in Afghanistan of the utility of design frames the understanding of President Hamid Karzai’s recent anti-American rhetoric. On April 1st, 2010, President Karzai broadcasted on national television, after meeting with President Barak Obama, that “[i]n this situation there is a thin curtain between invasion and cooperation, assistance could become a national resistance.”¹²⁸ In addition, President Karzai was

¹²⁷ System of opposition, as defined within this context, extends merely beyond the enemy forces fighting against the authorities of Afghanistan but also those people who support the illicit counternarcotics industry and government officials failing to establish a sound government within the country of Afghanistan.

¹²⁸ Alissa J. Rubin, “Afghan President Rebukes U.S. and UN,” *The New York Times*, April 1, 2010, <http://www.nytimes.com/2010/04/02/world/asia/02afghan.html> [accessed April 15, 2010].

quoted secondhand in the international press as saying, “If I come under foreign pressure I might join the Taliban.”¹²⁹ If a staff solely used MDMP or JOPP as planning constructs this statement would mean disaster for all created plans based on the assumption that the Taliban is the enemy or adversary in Afghanistan. Where design’s utilize arises, in this situation, draws from its view of the situation and allowance of the staff to remain attuned politically to the environment. Instead of disaster, this statement is now a leverage point in the environmental frame, problem frame and operational approach. Designers accept operational surprise and use events like Karzai’s statements to further understand oneself and all actors within the environment. Karzai’s threat to join the Taliban is a reflection of his own narrative. To a design team, these statements do not fundamentally surprise the staff but instead changes the understanding of how actors in the environment see themselves. U.S. forces in Afghanistan must now look at their own narrative and view of themselves and tie these changes into plans and future operations. How attuned politically the staff is to Afghanistan’s system and its own creates opportunities to leverage recent activities to achieve designated goals.

Conclusion

“After eight years into the war in Afghanistan,” according to MG Flynn’s article on fixing intelligence, “the U.S. intelligence community is only marginally relevant to the overall strategy.”¹³⁰ A change within the intelligence community must occur. The use of design is a method to increase the intelligence community’s ability to increase its relevance. Problem framing and reframing are both foundational blocks of creating better plans and more relevant operations in Afghanistan. Defining the problem before planning an entire operation examines the holistic environment. Design does not replace MDMP but helps inform intelligence collection

¹²⁹ Associated Press, “Karzai to lawmakers: ‘I Might Join the Taliban,’” *MSNBC*, April 5, 2010, <http://www.msnbc.msn.com/id/36178710> [accessed April 15, 2010].

¹³⁰ Flynn, Pottinger and Batchelor, 10.

and all operational processes. Often after entry into an operation the requirement for problem reframing arises. Problem reframing demands a mixture of intellectual professionalism, creative thinking, and a balanced approach to understanding the changes within the environment. Learning to comprehend hard to describe problems and communicate with all actors in the environment requires a holistic understanding. The intelligence community's input is critical for the military to create acceptable solutions.¹³¹

The commander of the U.S. Joint Forces Command, General James N. Mattis acknowledges the intelligence officer is a key player in the early design effort. Responding to the commander's design priorities and creating their initial intelligence products, General Mattis explains, "helps the commander understand how joint force actions might affect the relevant political, social, economic, informational, and other factors that comprise the current environment and affect moving the system to the desired state."¹³² This monograph's purpose was to outline, that through the use of design methodologies, the intelligence community can provide improved and fused intelligence to operational level commanders resulting potential problem reframing and relevant operations.

Looking at two distinct periods in Afghanistan and understanding their context, this monograph demonstrated, that an intelligence officer's ability to pull information from multiple sources relevantly suggests when problem reframing should occur. Through the validation of information and intelligence available to the intelligence community the four criteria of experimentation, learning, discourse and generating tools were used to assess a potential reframing of the problem. As this study examined the four criteria of design, in the problem

¹³¹ McDowell, 129 and Lawson, 5.

¹³² U.S. Joint Forces Command Memorandum, 6 October 2009, by General John N. Mattis, entitled "Vision For a Joint Approach to Operational Design," 4. Memorandum disseminated to the School of Advanced Military Studies during General Mattis' briefing at Fort Leavenworth, Kansas on October 29, 2009.

frame, potential problem reframing was suggested by information available in July 2007. The second case of September 2005, did not suggest problem reframing by commanders.

Both case studied derived a solid understanding of the operational environment from only unclassified sources. This study displayed that the overreliance on classified information and immediate focus on tactical issues prevents many intelligence professionals from adequately assessing the true nature of the problem. Intelligence professionals will never receive every piece of the puzzle. Focusing too closely on only 100 pieces of a 10,000 piece puzzle yields limited results when attempting to visualize the entire picture. Overcoming this obstacle takes pioneering intelligence leaders who can innovate their teams to periodically examine evidence and cumulatively see the significance of the whole environment.

By reviewing the theory of design it becomes clear that design methodology assists the entire intelligence community to understand the current environment. As Nathanael Greene, a major general in the Continental Army during the American Revolution described to George Washington on February 15, 1781, good intelligence is “the soul of an army.”¹³³ The bottom line is that intelligence practitioners who recognize this as truth have the ability to not only change the limited frame in which problems are now viewed, but also to recommend better solutions to plan effective operations.

Recommendations

As America marks almost a decade in Afghanistan intelligence professionals have fallen behind in their need to expand their scope beyond simply targeting the enemy. The purpose of this study was to clarify the role that intelligence plays in design and to suggest that, by the use of design, the intelligence community can better inform commanders on the true operational environment and provide more relevant information on shaping problem reframing. Using the

analysis gained from this study of problem reframing additional recommendations to intelligence staffs and commanders arise on the role of design. These recommendations utilize concepts from design theory and recommend their application for use within the intelligence community.

The first step to change begins with an appreciation of the environment and understanding the problem.¹³⁴ Looking at a problem in a military context requires an understanding that the complex dynamic system is capable of changing and learning from experience.¹³⁵ As a response to this experience, participants can acquire information about the environment and learn about their own interaction within the environment. How then do intelligence professionals, staffs and leaders learn? By the challenging the current system, all participants can increase learning.

Recommendations for Intelligence Professionals

The intelligence community plays a key role in accounting for failures by providing commanders the right information upon drastic shifts in the operational environment. Future reforms by the intelligence community require time and training devoted to understanding and applying the design methodology to intelligence operations. According to Sherman Kent, an Office of Strategic Services veteran and theorist of American national intelligence, the “key to intelligence was a well-developed organization able to bring together the best specialists with the

¹³³ Nathanael Greene to Washington, February 15, 1781, in Jared Sparks, ed., *Correspondence of the American Revolution Being Letters of Eminent Men to George Washington*, Boston: Little, Brown and Company, 1853, vol III, 234.

¹³⁴ To look at problem reframing requires an assessment of a people based system, according to Peter Checkland and John Poulter. During a deployment, the military are members of a system and requires that they acts as practitioners. To assist in problem framing, Checkland and Poulter layout four conditions through soft systems methodology to structure problems. First, identify criteria for an assessment before engaging. Second, understand and clarify the irritating problem. Third, acknowledge that the problem is actionable by all friendly actors and confrontational to enemy forces. Last, structure the problem feasibly and accept input by some stakeholders. Problem reframing, takes Checkland and Poulter’s problem structuring after an initial introduction into the operational environment. Peter Checkland and John Poulter, *Learning for Action: A Short Definitive Account of Soft Systems Methodology and its use for Practitioners, Teachers and Students*, (Chichester: John Wiley and Sons, 2006), 13.

¹³⁵ Bousquet, 175.

most comprehensive and reliable information.”¹³⁶ Taking this advice a step further requires a true understanding of what the military intelligence professionals’ roles are in design. This requires an understanding of the tools intelligence personnel can use in design. These tools assist the military intelligence corps with ideas derived from the multiple theories of design.¹³⁷ Understanding self-identity, an individual thinks in holistic terms through explanation of words and actions.¹³⁸ In addition, this understanding leads to a better awareness of one-self, the threat, and the environment.

One tool available to military intelligence professionals understands the importance of culture in the operational environment. Princeton cultural anthropologist Professor Clifford Geertz proposes that by realizing social actions are comments on more than themselves, interpretation then does not set a predetermined path for every action.¹³⁹ To clarify further, small facts speak to larger issues. By understanding the smaller details, intelligence professionals can clarify the larger issues.¹⁴⁰ In the end, cultural theory, according to Geertz, is an inference that is not predictive but anticipatory.¹⁴¹ The key to understanding the culture lies in society’s forms that are

¹³⁶ Zvi Lanir, “Fundamental Surprises,” *Center for Strategic Studies*, TAU, 6.
<http://google1.it.ohio-state.edu/search?q=cache:oL7gmwxXw0EJ;tsel.eng.ohio-s> [accessed on September 21, 2009]

¹³⁷ Professor Elinor Ochs, a linguistic anthropologist, and Lisa Capps, a psychologist, introduces the idea of the narrative to intelligence professionals by normalizing the commonality or identity as a means of imposing order on disconnected events. Elinor Ochs and Lisa Capps, “Narrating the Self,” *Annual Review of Anthropology*, 1996, 19.
<http://www.jstor.org/stable/2155816?&Search=yes&term=Self&term=Narrating&list=hide&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3DNarrating%2BSelf%26wc%3Don%26x%3D9%26y%3D7&item=1&ttl=2307&returnArticleService=showArticle> [accessed on September 21, 2009].

¹³⁸ Thinking holistically requires self understanding for American forces in Afghanistan. A significant shift is that perception is the new battlefield and utilizing this new asset is the preferred weapon in the case of Afghanistan. Joseph Henrotin and Tanguy Struye, “Ontological-Cultural Asymmetry and the Relevance of Grand Strategies,,” *Journal of Military and Strategic Studies*, 10.
www.jmss.org/2004/winter/articles/henrotin_struye.pdf [accessed on September 21, 2009].

¹³⁹ Clifford Geertz, *The Interpretation of Cultures: Selected Essays by Clifford Geertz*, (New York: Perseus Books, 1973), 23.

¹⁴⁰ Ibid.

¹⁴¹ Ibid., 26.

truly culture's substance.¹⁴² Along with understanding culture the ability for the intelligence community to foster creativity in thinking is the next application for change.

Within the intelligence community, creating an environment that fosters the importance of creative thinking is critical. Intelligence shops, cells, and elements can emerge to proactively allow creative ideas, images and insights to arise unexpectedly and radically, distinct from prior foundational groundwork during Intelligence Preparation of the Battlefield.¹⁴³ Every new idea retains familiar aspects tied with previous work, but it reveals extant knowledge used to generate new learning in novel ways.¹⁴⁴ Beginning with a preconceived notion of time, space, perspective, and the identification of presupposed identity, staffs can move among these spaces to derive new concepts within the environmental frame or even problem reframing.¹⁴⁵ The intelligence community displayed this process with the creation and expanded use of Intellipedia. The online system, accessible on the secret and top-secret Internet systems, allows individuals with the appropriate clearances to collaboratively share information. Similar to Wikipedia, intelligence professionals are now stakeholders in Intellipedia and not merely shareholders.¹⁴⁶ The end result,

¹⁴² Ibid., 28.

¹⁴³ Jeffrey Goldsten, "Emergence, Creativity, and the Logic of Following and Negating," *The Innovation Journal*, 10 (3), 3. http://www.innovation.cc/volumes-issues/goldstein_2_ecl_jagrevised_2.pdf [accessed on September 23, 2009].

¹⁴⁴ Ibid., 8.

¹⁴⁵ Ibid., 3. This method, at times leads to the Anacoluthian process, where newly generated ideas, from no logical flow of the past, are generated. To stimulate this creativity it remains pertinent to prevent the staff from dismissing ideas where one is never sure of the answer. Acknowledging the ambiguity of this process, begins by depicting the unknowns, embedding issues and questions within briefings to commanders. This takes the working hypothesis and through a coherent process develops dynamic and ostensive ideas. Daniel Goleman provides further insight on collective intelligence in his book *Ecological Intelligence*. He states that collective, distributed intelligence spreads when individuals share their knowledge and the insight becomes group memory. Shared intelligence grows through the contributions of individuals who advances that understanding spreads among the group. An example of distributed intelligence is seen in a hospital, "where the lab technician does one set of jobs well, a surgical nurse another and a radiologist still another; coordinating all these skills and knowledge allows patients to receive sound care." Daniel Goleman, *Ecological Intelligence*. (Broadway Books: New York, 2009), 49.

¹⁴⁶ A stakeholder is a member of the group who is affected by the innovation. A shareholder is an outsider who does not feel an immediate connection to the progress of the product or business. Both are

due to swarm intelligence, is a network of users who share information, support the intelligence community and assist in changing the culture of the intelligence community to an environment of collaboration.

Another aspect of design understands that rather than trying to forecast future events to exercise control, intelligence professionals, through predictive analysis, must look at different variables to learn about the systems' critical points and its resistance to change or homeostasis.¹⁴⁷ Intelligence professionals should not seek to control the complexity of the system by quantifying it and mastering its causality. Instead, by increasing intuitional knowledge about how the system works increases the effective interactions of forces within the system.¹⁴⁸ Design tools for intelligence professionals' use require an understanding that multiple interacting relationships leads to a development of a rich picture, through visual graphics and text (narrative), which, if done together leads to efficacy, efficiency and effectiveness.¹⁴⁹ Thus building a product "power point deep" ineffectively displays the work conducted. A written narrative must accompany the design drawing or rich picture to effectively portray the results of research. Both the picture and narrative test the design to confirm the feasibility of the ideas and test the achievability of the long-term goals. The rich picture and narrative assists in the understanding of viewpoints, logic and definition of reality.

Problem definition, understanding cultures, and narratives are not overwhelmingly complex activities, but unfortunately, some analysts assume that because they are time consuming, people fail to merit the necessity for this detailed thinking. Bryan Lawson outlines other design traps in his five significant problems facing designers: categorization, puzzle, mathematical, icon, and

defined in Peter Gloor and Scott Cooper's "The New Principles of Swarm Business" *MIT Sloan Management Review* (Spring 2007): 81-84.

¹⁴⁷ Bousquet, 181-182.

¹⁴⁸ Ibid.

¹⁴⁹ Checkland and Poulter, 24-25.

image traps. The first trap, categorization, occurs when the military identifies a problem and categorizes the solution most commonly used.¹⁵⁰ Secondly, design problems often challenge the military mode of thinking as puzzle traps, where the recognition of the “right” solution exists with only one correct answer.¹⁵¹ The third trap occurs when the problem is expressed numerically and the power of the mathematician’s incorrect application of a solution is expressed as an answer.¹⁵² Military examples of this trap were seen in Vietnam with McNamara’s “whiz kid” solutions to winning the Vietnam War. Fourthly, the icon trap occurs when the beauty of the plan outweighs the application and operationalization of the solution.¹⁵³ Intelligence practitioners face this when attempting to create the perfect mission analysis or the most comprehensive collection plan, whereas, an 80% solution is what the staff requires. The last trap of design, the image trap, occurs with the military when a solution of full scale combat is desired, but in all actuality, only a 30% solution of combat is needed with a 70% emphasis on stability operations.¹⁵⁴ This trap occurs when the seductivity of one solution is desired by most of the planners and a failure to recognize the correct operational approach is missed by most practitioners. All of the traps, explained above, are examples of singular approaches to a large complex adaptive environment. Acknowledging the traps in the design methodology allows the intelligence community to utilize design and avoid common pitfalls to both the design and planning process.

Recommendations for Commanders

Providing tools to assist the commander on design and more specifically problem reframing, requires moving individuals from awareness of the environment to learning about what changes

¹⁵⁰ Lawson, 220.

¹⁵¹ Ibid., 221.

¹⁵² Ibid., 226.

¹⁵³ Ibid., 229.

¹⁵⁴ Ibid., 230.

the environment. To do this requires leaders with vision, historical perspective, operational abilities, and the ability to translate abstract understanding into political terminology.¹⁵⁵ Doctor Zvi Lanir, leader of the Center of Research and Political Planning in the Ministry of Foreign Affairs of the State of Israel, states, “Leaders must learn to operate under the constant pressure of fulfilling two tasks: dealing efficiently with situational changes and changing the system as a whole.”¹⁵⁶ Even General Mattis states that, “Commanders must address each situation on its own terms and in its unique political and strategic context rather than attempting to fit the situation into a preferred template.”¹⁵⁷

Design, planning and executing operations are linked. Commanders’ flexibility in understanding this symbiotic relationship assists in moving the paradigm from merely information exchanges to real understanding. Specific to design, everyone holds a piece of the puzzle and is a stakeholder. Although the commander might claim the largest interest in the success of an operation, a network of stakeholders holds a true interest in the consequences of problem solving.¹⁵⁸ U.S. Joint Doctrine makes the same point stating, “[i]ntelligence oversight and the production and integration of intelligence in military operations are inherent responsibilities of command.”¹⁵⁹

The multiplicity of decisions required from the commander during a deployment is enormous. Encouraging a climate of learning prior to or even during operations allows a leader to create an optimally performing organization. Shifting fundamental awareness to fundamental learning is a transformation that requires leaders with the ability to make diverse connections.¹⁶⁰ Leadership

¹⁵⁵ Lanir, 35.

¹⁵⁶ Ibid., 125.

¹⁵⁷ Mattis, 1.

¹⁵⁸ Krippendorff, 65.

¹⁵⁹ DoD, *United States Joint Publication 2-0: Joint Intelligence*, I-1.

¹⁶⁰ An example of this type of leadership is displayed throughout the book *The Perfect Swarm* by Len Fisher, when he states that leaders who use rules from nature, business, mathematics, computer

with a goal-setting vision that exceeds tangible constraints of resources and pragmatism best utilizes all of the aspects of design.¹⁶¹ Specifically to Afghanistan, commanders who recognize through a defined, acceptable level of violence an eventual reconciliation with the enemy occurs within counterinsurgency (COIN) operations. There are many small actions and few spectacular events to create a change in the COIN environment. Therefore, decision making in COIN requires a self-organizing system that learns, transforms and changes its relationship over time. Through a consistent and coherent argument, leaders frame problems within the complex adaptive system to result in the loci of the proper solution state.

Internal to units, commanders who understand that hierarchy is culturally imperialistic transform their leadership to actively adapt, thereby creating organizations where design methodology reaches its fullest potential.¹⁶² The adaptive leader, acknowledges the requirement to address conflicts in values, does this through learning. Harvard Professor Ronald A. Heifetz advises that, “values are shaped and refined by facing real problems, people interpret problems according to the values they hold.”¹⁶³ The inclusion of competing values and perspectives is essential when adaptations are required for success. Acknowledging an organization’s own concepts on how to progress when facing a problem, allows commanders to arrive at optimal solutions for the environment.

Design allows commanders, with the aid of their staffs to create optimal solutions to the multiple complex problems within the operational environment. Clarifying not only the role of intelligence but also tools to assist commanders, this monograph shows that the link between design, planning and execution create possible changes to the entire system.

modeling, social, and behavioral studies have the best change of, “emerging unscathed from the mire of complexity.” Len Fisher, *The Perfect Swarm*, (Basic Books: New York, 2009), 172.

¹⁶¹ Lanier, 35.

¹⁶² Heifetz, 22.

¹⁶³ Ibid., 23.

Bibliography

- ABC News Reporting. *Afghanistan – Where Things Stand*, ABC News, 1 December 2007.
- Associated Press. “Karzai to lawmakers: ‘I Might Join the Taliban.’” *MSNBC*, April 5, 2010. <http://www.msnbc.msn.com/id/36178710> [accessed April 15, 2010].
- Atkinson, Simon Reay and James Moffat. *The Agile Organization: From Informal Networks to Complex Effects and Agility*. Washington D.C.: Department of Defense Command and Control Research Program, 2005.
- Axelrod, Robert and Michael D. Cohen. *Harnessing Complexity: Organizational Implications of a Scientific Frontier*. New York: Basic Books, 2000.
- Banach, Stefan J. “Educating by Design, Preparing Leaders for a Complex World.” *Military Review* (March-April 2009).
- Banach, Stefan J. and Alex Ryan. “The Art of Design, A Design Methodology.” *Military Review*. (March-April 2009).
- Baron, Jonathan. *Thinking and Deciding*. Cambridge: Cambridge University Press, 1988.
- Bar-Yam, Yaneer. *Making Things Work: Solving Complex Problems in a Complex World*. Massachusetts: Knowledge Press, 2004.
- Bearak, Barry and Choe Sang-Hun. “Taliban Threaten to Kill 18 Korean Hostages.” *The New York Times*. July 21, 2007.
- Betts, Richard K. “Analysis, War, and Decisions: Why Intelligence Failures are Inevitable.” *World Politics* Vol. 31, No 1 (Oct, 1978): 61-89.
- Bousquet, Antoine. *The Scientific Way of Warfare: Order and Chaos on the Battlefield of Modernity*. New York: Columbia University Press, 2009.
- Cesar, Edison, Patrick Allen, Steven Bankes, John Bondanella, Rick Eden, H. Edward Hall, Clairice Veit, Loretta Verman, Robert Weissler, Barry Wilson. *A New Approach for Measuring the Operational Value of Intelligence for Military Operations*. Santa Monica, CA: RAND, 1994.
- Checkland, Peter and John Poulter. *Learning for Action: A Short Definitive Account of Soft Systems Methodology and its use for Practitioners, Teachers and Students*. Chichester: John Wiley and Sons, 2006.
- Cialdini, Robert B. *Influence: Science and Practice*, 5th Ed. Boston: Pearson, 2009.
- Clausewitz, Carl von. *On War*. Edited and translated by Michael Howard and Peter Paret. New York: Alfred A. Knopf, 1993.
- Cohen, Eliot and John Gooch. *Military Misfortunes*. New York: The Free Press, 1991.
- Cooper, Jeffrey R. *Curing Analytic Pathologies: Pathways to Improved Intelligence Analysis*. Washington, DC: Center for the Study of Intelligence, 2005.
- Cordesman, Antoine H. “Armed Nation Building: The Real Challenge in Afghanistan,” *The Center for Strategic and International Studies*, November 2007.

- Courtney, Morgan. "In the Balance, Measuring Progress in Afghanistan" July 2005. *The Post Conflict Reconstruction Project Summary Report*, <http://csis.org/files/media/csis/pubs/inthebalance.pdf> [accessed January 22, 2010].
- Delanda, Manuel. *A New Philosophy of Society: Assemblage Theory and Social Complexity*. London: Continuum, 2007.
- Demetris, Laura and John Ratcliffe, "Post Conflict Reconstruction: Policy Brief," *Center for Strategic and International Studies*, Washington DC, November 2005. http://csis.org/files/media/csis/pubs/051129_afghan_election_brief.pdf [accessed January 10, 2010]
- Denning, Steven, *The Secret Language of Leadership: How Leaders Inspire Action Through Narrative*. San Francisco, Jossey-Bass; John Wiley & Sons, Inc, 2007.
- Dobbin, James, Seth G. Jones, Keith Crane, Andrew Rathmell, Brett Stelle, Richard Teltschik, Anga Timilsina. *The UN's Role in National-Building: From the Congo to Iraq*. Santa Monica, CA: RAND, 2005. http://www.rand.org/pubs/monographs/2005/RAND_MG304.pdf [accessed on January 11, 2010].
- Dorner, Dietrich. *The Logic of Failure*. New York: Metropolitan Books, 1989.
- Ferris, John Robert. *Intelligence and Strategy*. New York: Routledge, 2005.
- Fisher, Len. *The Perfect Swarm*. New York: Basic Books, 2009.
- Flynn, Michael T., Captain Matt Pottinger, Paul D. Batchelor, "Fixing Intel: A Blueprint for Making Intelligence Relevant in Afghanistan." *Center for a New American Security*, January, 2010. http://www.cnas.org/files/documents/publications/AfghanIntel_Flynn_Jan2010_code507_voices.pdf [accessed January 12, 2010].
- Folk, Robert D. *Intelligence Analysis in Theater Joint Intelligence Centers: Experiment in Applying Structured Methods*. Washington, D.C.: Joint Military Intelligence Center, 2000.
- Gall, Carlotta. "Study Proposes Opium Licensing for Afghanistan," *The New York Times*, September 27, 2005.
- Garamone, Jim. "Pace: U.S. Working to Send More Training Support to Afghanistan," *American Forces Press Service*. July 19, 2007.
- Geertz, Clifford. *The Interpretation of Cultures: Selected Essays by Clifford Geertz*. New York: Perseus Books, 1973.
- Gharajedaghi, Jamshid. *Systems Thinking: Managing Chaos and Complexity*. United Kingdom: Butterworth-Heinemann, 1999.
- Gladwell, Malcolm. *Blink*. New York: Back Bay Books, 2005.
- Glass, Robert R. Glass and Phillip B. Davidson. *Intelligence is for Commanders*. Harrisburg, PA: Military Service Publishing Company, 1948.
- Gloor, Peter and Scott Cooper. "The New Principles of Swarm Business" *MIT Sloan Management Review*. Spring 2007.

- Godges, John. "Afghanistan on the Edge: A World at Risk of Winning the Urban Battle, Losing the Rural War, Abandoning the Regional Solution," [http://www.rand.org/publications/randreview/issues/summer 2007/afghan1.html](http://www.rand.org/publications/randreview/issues/summer%202007/afghan1.html) [accessed on January 20, 2010].
- Goldsten, Jeffrey. "Emergence, Creativity, and the Logic of Following and Negating," *The Innovation Journal*, 10 (3).
- Goleman, Daniel. *Ecological Intelligence*. New York: Broadway Books: New York, 2009.
- Greenwood, T.C. and T.X. Hammes. "War Planning for Wicked Problems: Where Joint Doctrine Fails," *Armed Forces Journal*. December 2009/January 2010.
- Handel, Michael I. *Intelligence and Military Operations*. London: Frank Cass, 1990.
- . "Leaders and Intelligence." Published in *Leaders and Intelligence*. Edited by Michael I. Handel. London: Frank Cass & Co, 1989.
- Hatch, Mary Jo with Ann L. Cunliffe. *Organization Theory, Second Edition*. Oxford: Oxford University Press, 2006.
- Heifetz, Ronald A. *Leadership Without Easy Answers*. Cambridge, MA: The Belknap Press of Harvard University, 1994.
- Henrotin, Joseph and Tanguy Stuye de Swielande. "Ontological-Cultural Asymmetry and the Relevance of Grand Strategies," *Journal of Military and Strategic Studies*, Winter 2004, Vol 7, Issue 2.
- Heuer, Richard J. Jr. *Psychology of Intelligence Analysis*. New York: Novinka Books, 2006.
- Jackson, Michael C. *Systems Approach to Management*. New York: Kluwer Academic, 2000.
- Jefferson, Lynnette M. "Afghan Police, Army Ready to Secure National Elections," *American Forces Press Service*, Kabul, Afghanistan, September 17, 2005.
- Jones, Seth G. "Afghan Problem is Regional." *United Press International*. July 4, 2007.
- . "The State of the Afghan Insurgency" Testimony before the Standing Committee on National Security and Defense, The Senate of Canada, December 10, 2007. http://www.rand.org/pubs/testimonies/2007/RAND_CT296.pdf [accessed on March 24, 2010].
- . "The Danger Next Door." *The New York Times*. September 23, 2005.
- Jullien, Francois. *A Treatise on Efficacy: Between Western and Chinese Thinking*. Janet Lloyd, Trans. Honolulu: University of Hawaii Press, 2004.
- Kam, Ephram. "Intelligence and Commanders." Published in *Strategic Intelligence: Theory and Application*. Edited by Douglas H. Dearth and Royal Thomas Goodden. Carlisle Barracks, PA: U.S. Army War College, 1995.
- Klein, Gary. *The Power of Intuition: How to Use your Gut Feelings to Make Better Decisions at Work*. New York: Currency/Doubleday, 2004.
- Keegan, John. *Intelligence in War*. New York: Alfred A. Knopf, 2003.
- Krippendorff, Klaus. *The Semantic Turn: A New Foundation for Design*. Boca Raton, FL: Taylor and Francis, 2006.
- Kuhn, Thomas S. *The Structure of Scientific Revolutions*, 3rd ed. Chicago: University of Chicago Press, 1996.

- Lanir, Zvi. "Fundamental Surprises," *Center for Strategic Studies*, TAU, 6. <http://google1.it.ohio-state.edu/search?q=cache:oL7gmwxXw0EJ;cse1.eng.ohio-s> [accessed on September 21, 2009].
- Lanir, Zvi and Gad Sneh. *The New Agenda of Praxis*. Tel Aviv: Praxis, 2000.
- Larson, Eric V., Derek Eaton, Brian Nichiporuk, Thomas S. Szayna. *Assessing Irregular Warfare: A Framework for Intelligence Analysis*. Arlington, VA: RAND, 2008.
- Lawrence, T.E. *Seven Pillars of Wisdom*. London: Penguin, 1926.
- Lawson, Bryan. *How Designers Think*. Boston: Architectural Press, 2006.
- Lessard, Pierre. "Campaign Design for Winning the War...and the Peace." *Parameters* (Summer 2005): 36-50.
- Levite, Ariel. *Intelligence and Strategic Surprises*. New York: Columbia University Press, 1987.
- Lock, Chrisoph H., Arnoud DeMeyer and Michael T. Pich. *Managing the Unknown*. New York: John Wiley & Sons, Inc, 2006.
- Mattis, John. M. U.S. Joint Forces Command Memorandum, 6 October 2009, by General John N. Mattis, entitled "Vision For a Joint Approach to Operational Design."
- McDowell, Don. *Strategic Intelligence: A Handbook for Practitioners, Managers and Users*. Lanham, Maryland: The Scarecrow Press, Inc, 2009.
- McHenry, David P. "Battle Command: An Approach to Wickedness." Monograph, School of Advanced Military Studies. United States Army Command and General Staff College, 2009.
- Meadows, Donnell H. *Thinking in Systems: A Primer*. White River Junction, Vermont: Chelsea Green Publishing, 2008.
- Mintzberg, Henry. *The Rise and Fall of Strategic Planning*. New York: The Free Press, 1994.
- Mitroff, Ian I. *Managing Crises Before They Happen*. New York: American Management Association, 2001.
- Moore, David T. *Critical Thinking and Intelligence Analysis*. Washington D.C.: Joint Military Intelligence College, 2006.
- Norwitz, Jeffrey H. *Leveraging Operational Intelligence-The Battle of Tannenberg and Masurian Lakes (1914)*. Newport, RI: Naval War College, 2001.
- Oches, Elinor and Lisa Capps. "Narrating the Self," *Annual Review of Anthropology*, 1996.
- O'Hanlon, Michael. "How to Win in Afghanistan." *The Wall Street Journal*, November 14, 2008.
- O'Malley, Brian M. "Civilian Job Skills Help Guardsmen Address Afghanistan's Poppy Problem." *Armed Forces Press Service*. July 26, 2007.
- Passi, Anssi. "Boundaries as Social Processes: Territorial in the World of Flows." printed in David Newman, ed. *Boundaries, Territory and Postmodernity*, special issue of *Geopolitics*. Frank Cass, 2002.
- Page, Scott. *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools and Societies*. Princeton: Princeton University Press, 2007.
- Perry, Walter and John Gordon IV. *Analytic Support to Intelligence in Counterinsurgencies*. Arlington, VA: National Defense Research Institute, 2008.

- Reuter, Peter H. and Victoria A. Greenfield, "Opium and Democracy." *United Press International*, May 4, 2005.
- Rubin, Alissa J. "Afghan President Rebukes U.S. and UN." *The New York Times*, April 1, 2010. <http://www.nytimes.com/2010/04/02/world/asia/02afghan.html> [accessed April 15, 2010].
- Salmon, Wesley C. *Causality and Explanation*. New York: Oxford University Press, 1998.
- Schon, Donald A. *Educating the Reflective Practitioner*. San Francisco: Jossey-Bass, 1987.
- Schulman, Paul R. "The Negotiated Order of Organizational Reliability." *Administration and Society* volume 25, 1993.
- Senge, Peter M. *The Fifth Discipline*. New York: Currency Books, 1990.
- Sengupta, Somini and Ismail Khan. "Bombings in Pakistan Leave at Least 48 Dead." *The New York Times*. July 19, 2007.
- Sharman, Julian editor. *The Proverbs of John Heywood: Being the "Proverbs" of that Author Printed in 1546*. London: George Bell and Sons, 1874.
- Silverman, David. *Qualitative Research: Theory, Method, and Practice*. London: Sage, 2004.
- Sparks, Jared. editor *Correspondence of the American Revolution Being Letters of Eminent Men to George Washington*. Volume III, Boston: Little, Brown and Company, 1853.
- Thomas, Shipley. *S-2 in Action*. Harrisburg, PA: The Military Service Publishing Co, 1940.
- Thucydides. *The History of the Peloponnesian War*. trans. R. Crawley, New York: E.P. Dutton & Co., 1950.
- Townsend, Elias Carter. *Risk: the Key to Combat Intelligence*. Harrisburg, PA: The Military Service Publishing Company, 1955.
- Tse-tung, Mao. *Selected Military Writings of Mao Tse-tung*. Peking: Foreign Language Press, 1963.
- United States Department of Defense. *United States Army Field Manual 2-0: Intelligence*. Washington, DC: Government Printing Office, March 2010.
- _____. *United States Army Field Manual 2-01.3: Intelligence Preparation of Battlefield/Battlespace*. Washington, DC: Government Printing Office, October 2009.
- _____. *United States Army Field Manual 3-0: Operations*. Washington, DC: Government Printing Office, February 2008.
- _____. *United States Army Field Manual 3-24: Counterinsurgency*. Washington, DC: Government Printing Office, December 2006.
- _____. *United States Army Field Manual 5-0: Army Planning and Orders Production*. Washington, DC: Government Printing Office, March 2010.
- _____. *United States Army Interim Field Manual 5-2: Design*. Washington, DC: Government Printing Office, 20 February 2009.
- _____. *United States Army Training and Doctrine Command Pamphlet No. 525-5-500: The United States Army Commander's Appreciation and Campaign Design*. Washington, DC: Headquarters, Department of the Army, 28 January 2008.
- _____. *United States Joint Publication 2-0: Joint Intelligence*. Washington DC: Government Printing Office, 22 June 2007.

- _____. *United States Joint Publication 5-0: Doctrine for Planning Joint Operations*. Washington DC: Government Printing Office, 13 April 1995.
- Van Creveld, Martin. *Command in War*. Cambridge: Harvard University Press, 1985.
- Weick, Karl E. and Kathleen M. Sutcliffe. *Managing the Unexpected*. San Francisco: John Wiley and Sons, 2007.
- Wood, Sara. "Bush: Afghanistan Proof of Progress in War on Terror," *American Forces Press Service*, Washington, September 22, 2005.
- _____. "Afghans Enjoy Successful Election Day," *American Forces Press Service*, Washington, September 19, 2005.
- Worley, Robert D., Cathleen Stasz, and James P. Kahan. *Understanding Commanders' Information Needs*. Santa Monica, CA: Rand, 1989.
- World Bank. "Governance Matters 2006: World Governance Indicators," *World Bank*, Washington D.C. 2006. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=999979 [accessed on November 20, 2009].